

TC-D707

SERVICE MANUAL

AEP Model

UK Model

E Model

Australian Model



- This set is the cassette deck section in LBT-D707CD/D707CDM.

Model Name Using Similar Mechanism	TC-H1600/WR590	
Tape Transport Mechanism Type	DECK A	TCM-190RA12C
	DECK B	TCM-190RB12C

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF With Type IV cassette (Sony METAL-ES) 30 Hz to 15 kHz (± 3 dB) With Type II cassette (Sony UX-S) 40 Hz to 14 kHz (± 3 dB) With Type I cassette (Sony HF-S) 40 Hz to 14 kHz (± 3 dB) $\pm 0.2\%$ W.PEAK (DIN)
Wow and flutter	
Weight	Approx. 3.5 kg (8 lb 1 oz)
Dimensions	Approx. 355 x 131 x 304 mm (14 x 5 1/4 x 12 inches) (w/h/d, including projections)

Design and specifications are subject to change without notice.

Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

"DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.



STEREO CASSETTE DECK
SONY®

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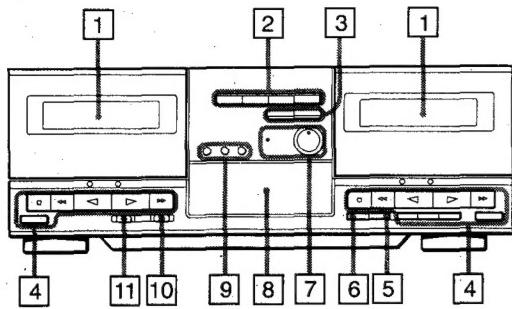
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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1 GENERAL

This section is extracted
from instruction manual.



- [1]** Cassette holders
- [2]** AUTO CD SYNCHRO REC buttons and indicators
C.(Cross) FADE (29)
FADE (28)
EDIT (31)
TIME (31)
- [3]** SYNCHRO DUBBING buttons (24)
- [4]** Tape operation buttons
◀◀ Leftward fast winding/AMS*, ▶▶ Rightward fast winding/AMS*, ▶ Forward play, ▲ Reverse play, ■ Stop, ▲ EJECT, ■ PAUSE (deck B only), ○ REC MUTE Record muting (deck B only), ● REC Record (deck B only)
- [5]** FADER button (22)
- [6]** ARL (Automatic recording level) button and indicator (21)
- [7]** REC (recording) LEVEL control and indicator (20)
- [8]** Display window
- [9]** COUNTER setting buttons (19)
A/B, MEMORY and RESET button
- [10]** DOLBY NR (noise reduction) selector (20)
- [11]** DIRECTION MODE selector (17, 20, 24)

* AMS is the abbreviation of Automatic Music Sensor.

SECTION 2 DISASSEMBLY

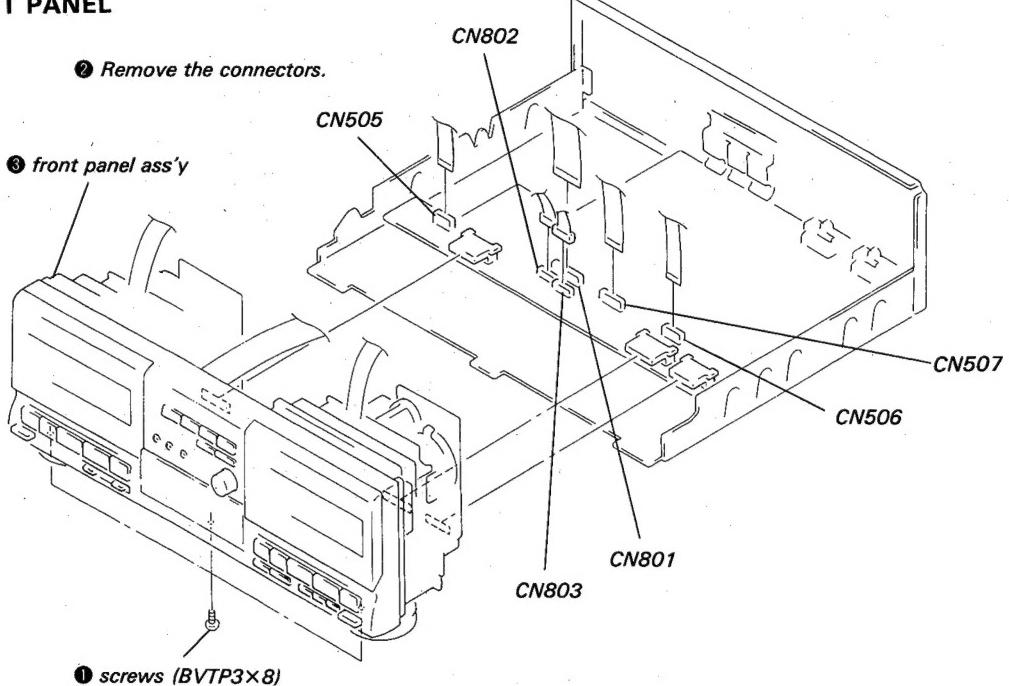
NOTE: Follow the disassembly procedure in the numerical order given.

CASE

Unscrew the four case attachment screws M3×8 and remove the case.

FRONT PANEL

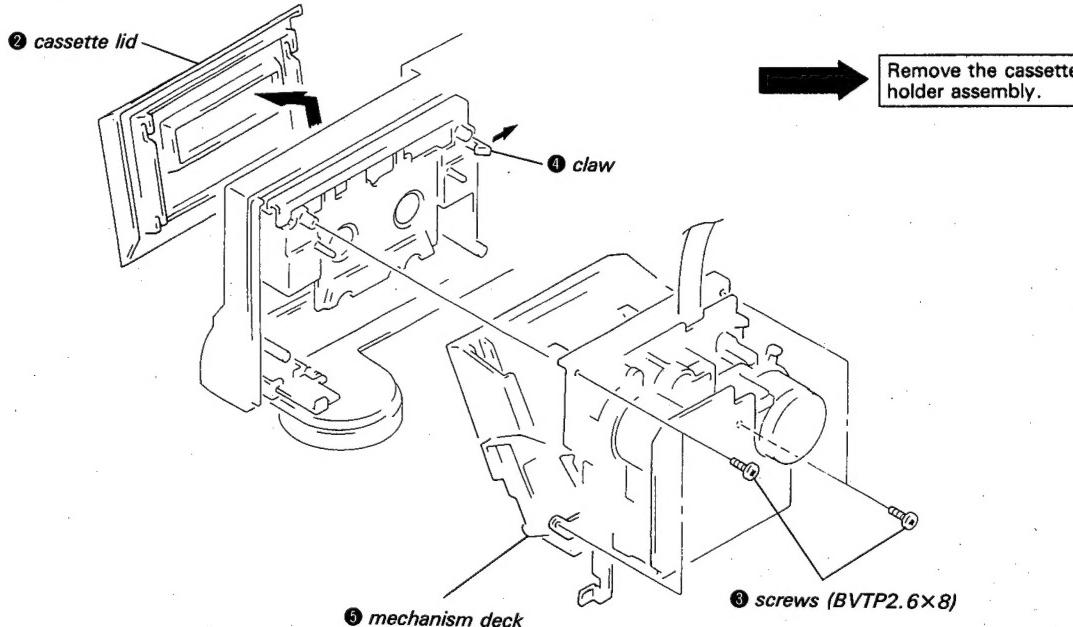
- ② Remove the connectors.



- ① screws (BVTP3×8)

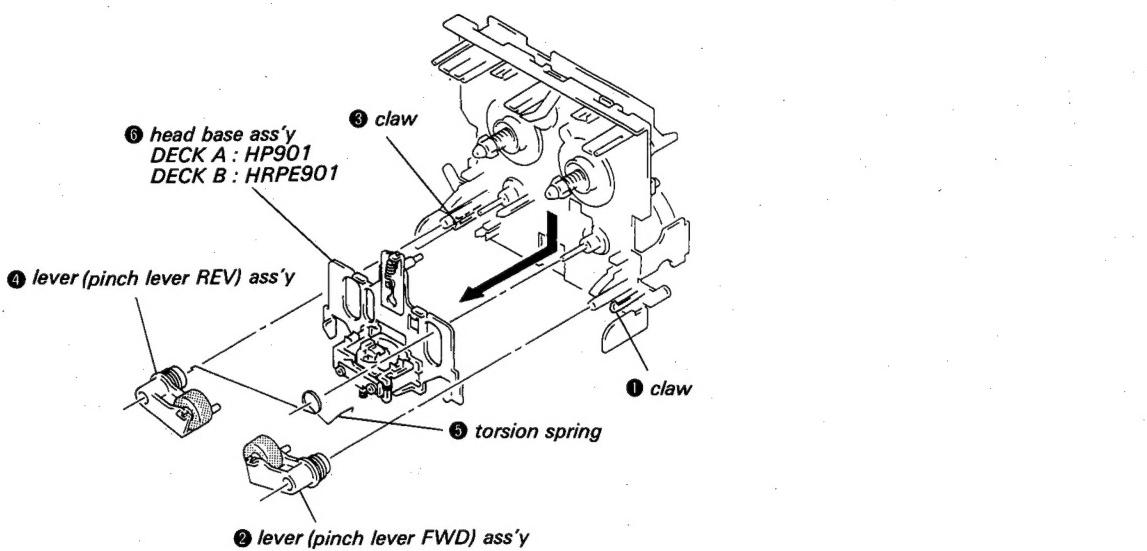
MECHANISM DECK

- ① Press the EJECT button.

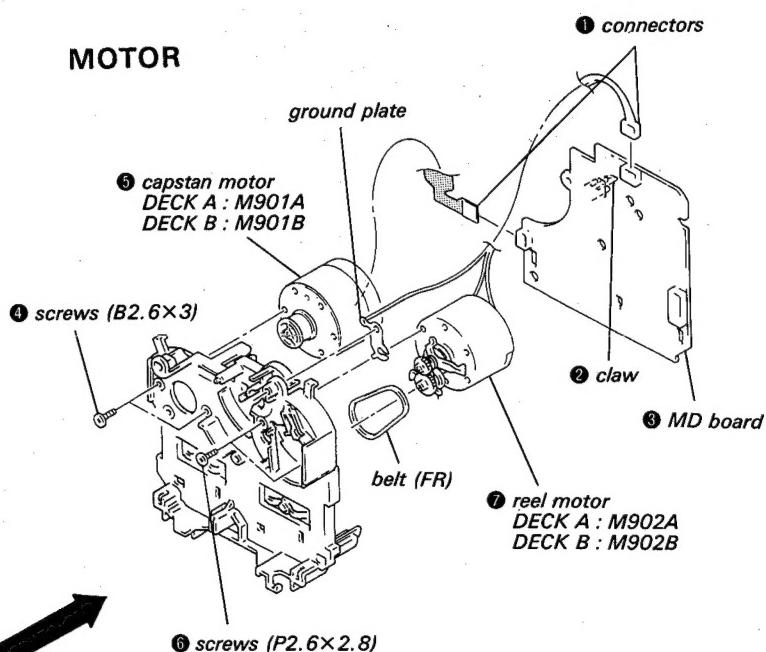


- Remove the cassette holder assembly.

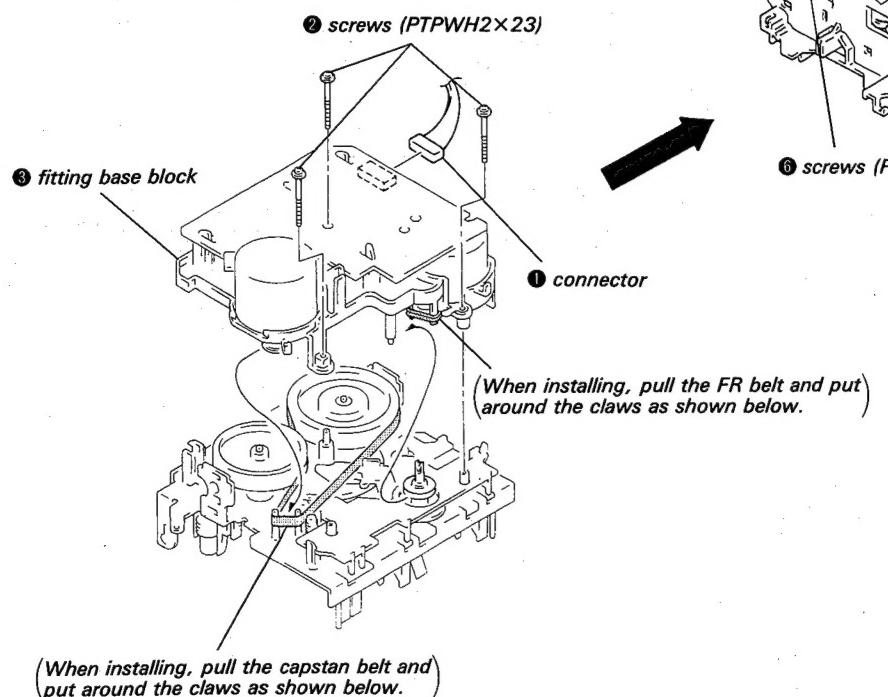
HEAD



MOTOR



FITTING BASE BLOCK



SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

3-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab;

record/playback/erase head	
pinch roller	rubber belts
capstan	idler
 2. Demagnetize the record/playback head with a head demagnetizer.
(Head demagnetizer do not approach for the erase head.)
 3. Do not use a magnetized screwdriver for the adjustments.
 4. After the adjustments, apply suitable locking compound to the parts adjusted.
 5. The adjustments should be performed in the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	35 to 60g·cm (0.49 to 0.83 oz·inch)
FWD Back tension	CQ-102C	2 to 6g·cm (0.03 to 0.08 oz·inch)
REV	CQ-102RC	35 to 60g·cm (0.49 to 0.83 oz·inch)
REV Back tension	CQ-102RC	2 to 6g·cm (0.03 to 0.08 oz·inch)
FF, REW	CQ-201B	70 to 110g·cm (0.98 to 1.52 oz·inch)

Note: The adjustment should be performed in the order given in the service manual. As a rule, adjustment about playback should be performed before adjustment about recording.

The adjustments should be performed for both L-CH and R-CH.

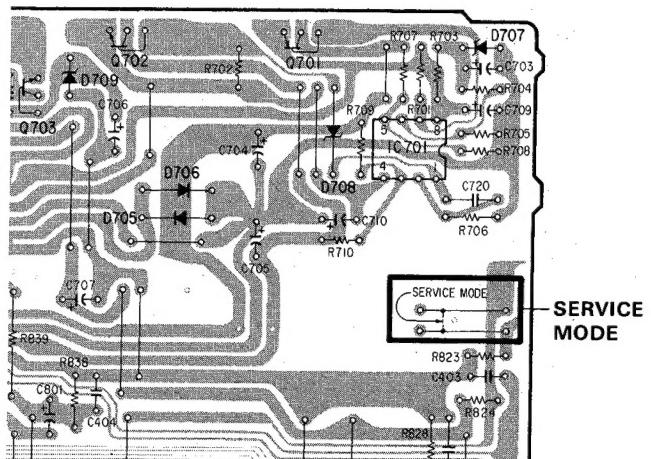
● Test Mode

The Test mode is activated by shorting Test Point Service mode (IC805 34 pin changes over to "L") with the POWER switch in OFF position, then turning on the POWER switch.

In this mode, the following functions operate:

1. Source monitor
Line mute is cancelled during recording.
 2. High speed playback
High speed playback is executed when the HIGH SPEED (DUBBING) button is pressed during playback. Normal speed playback is restored when the button is pressed again.
 3. Record memory
The tape counter is reset to "0" at the record start point.
After adjustment, open the Service mode to cancel the Test mode.

[MAIN BOARD] (CONDUCTOR SIDE)



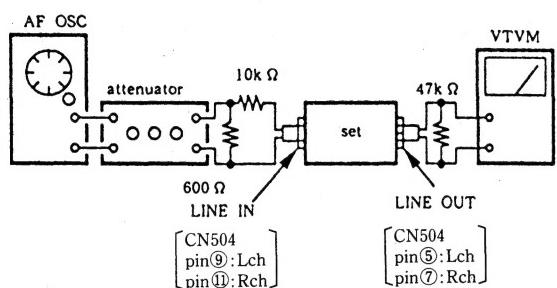
- Switches and controls should be set as follows unless otherwise specified.

NR switch : OFF
DIR MODE switch :

Standard Record:

Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

Record Mode



Standard Input Level

input terminal	LINE IN
source impedance	10kΩ
input level	0.25V (-10dB)

Standard Output Level

output terminal	LINE OUT
load impedance	47kΩ
output level	0.44V (-5dB)

Test tape

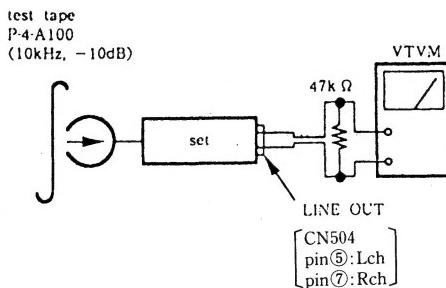
Type	Signal	Used for
P-4-A100	10kHz, -10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment

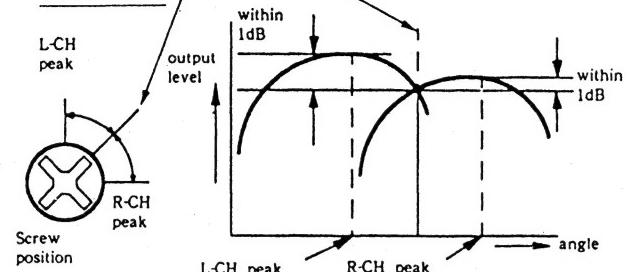
DECK A DECK B

Procedure :

- Mode: FWD playback

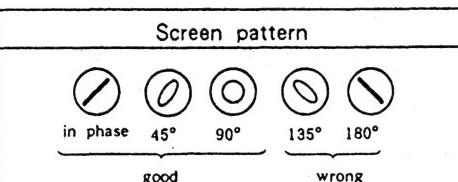
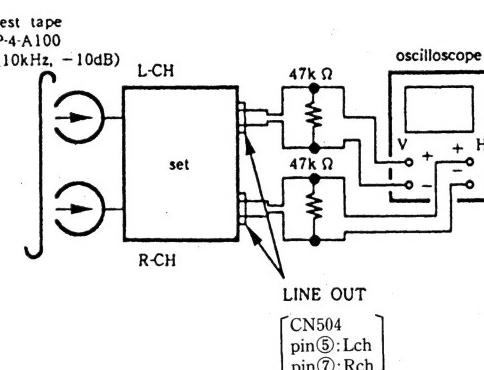


- Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



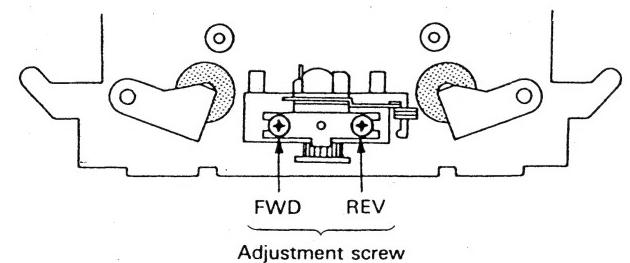
Phase Check

Mode: playback



- Set in the REV mode and repeat the step 1-3.
- After the adjustment, lock the screws with locking compound.

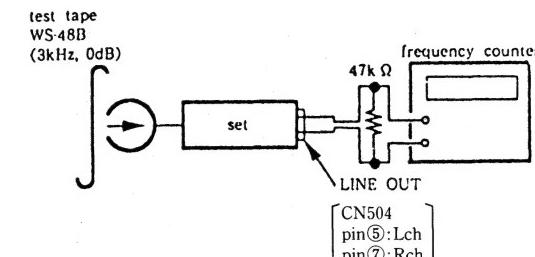
Adjustment Location : Record/playback head



Tape Speed Adjustment DECK A DECK B

Procedure :

Mode: playback



Perform high speed adjustment before normal speed adjustment.

(High speed adjustment)

- Continue pressing the SYNCHRO DUBBING HIGH SPEED switch.
- Check that frequency counter reading is within the standard value $6,000 \pm 60\text{Hz}$.
- If out of the standard, adjust each RV72 so that the frequency counter reading satisfies $6,000 \pm 60\text{Hz}$ on both A and B decks.
- Change over to Rev playback status, and repeat the above steps 1 to 3.

(Normal speed adjustment)

- Continue pressing the SYNCHRO DUBBING NORM SPEED switch.
- Check that the frequency counter reading is within the standard value $3,000 \pm 30\text{Hz}$.
- If out of the standard, adjust each RV71 so that the frequency counter reading satisfies $3,000 \pm 30\text{Hz}$ on both A and B decks.
- Change over to REV playback status, and repeat the above steps 1 to 3.

Frequency difference between the beginning and the end of the tape should be within 3%.

Frequency difference between deck A and deck B the beginning of the tape should be within 1.0%.

Adjustment Location :

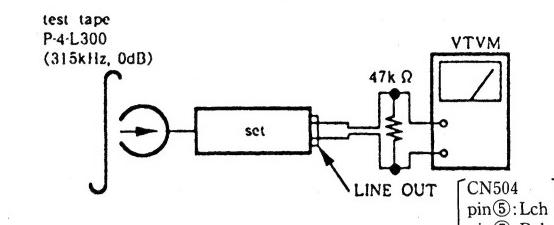
MD-A, MD-HX board

Playback Level Adjustment

DECK A DECK B

Procedure :

Mode: playback



Adjust RV11 (L-CH), RV21 (R-CH) so that the reading on VTVM meets the adjustment limits below.

Adjustment Limits :

LINE OUT level: $-5 \pm 0.5\text{dB}$ (0.42–0.46V)

Level difference between channels: less than 0.5dB

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

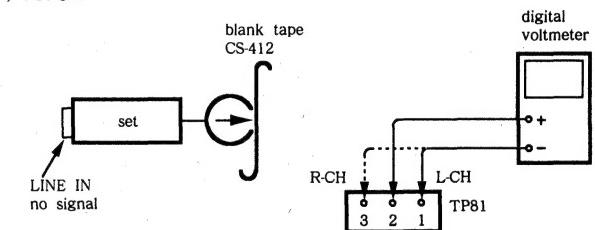
Adjustment Location : MD-A, MD-HX board

Bias Consumption Current Adjustment

This adjustment should be performed when replacing the head assy or the bias oscillating transformer (T81,T91).

Procedure :

() : R-CH



- Connect the digital voltmeter to test point TP81.

- Set RV81 (RV91) to mechanical center.

- Set to FWD record mode.

- Adjust T81 (T91) so that the digital voltmeter reading becomes minimum.

Adjustment Location : MD-HX board

Record Bias Adjustment DECK B

Setting :

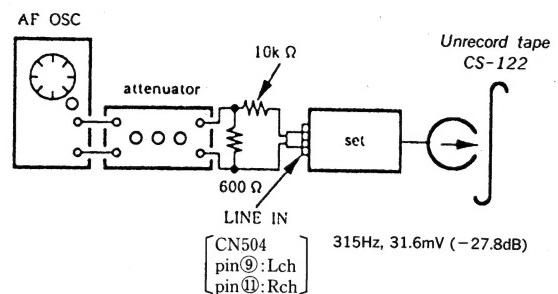
REC LEVEL control : Standard Record (See page 7).

SECTION 4 DIAGRAMS

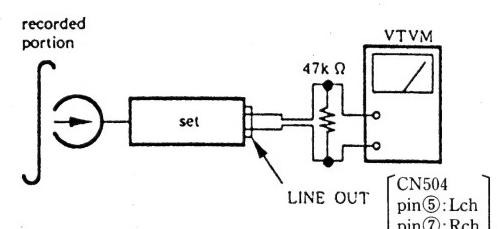
4-1. CIRCUIT BOARDS LOCATION

Procedure :

1. Mode : record



2. Mode : playback



Playback the signal recorded in step 1.

Confirm that the 10kHz playback output is $0 \pm 0.5\text{dB}$ relative to the 315Hz output. If necessary, adjust RV 81 (L-CH), RV 91 (R-CH) and repeat the steps given above.

Adjustment Location : MD-HX board

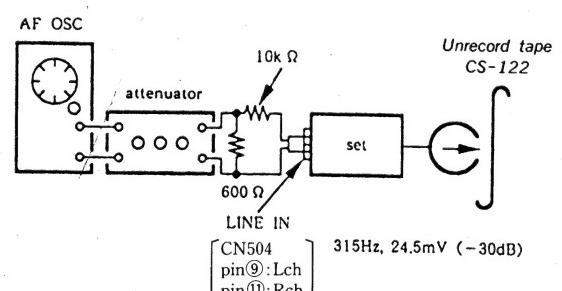
Record Level Adjustment [DECK B]

Setting :

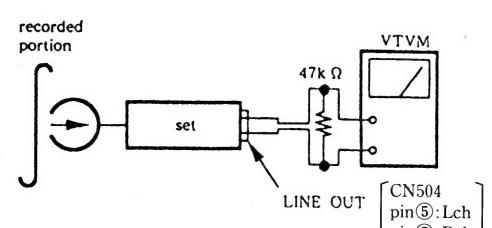
REC LEVEL control : Standard Record (See page 7).

Procedure :

1. Mode: record



2. Mode: playback



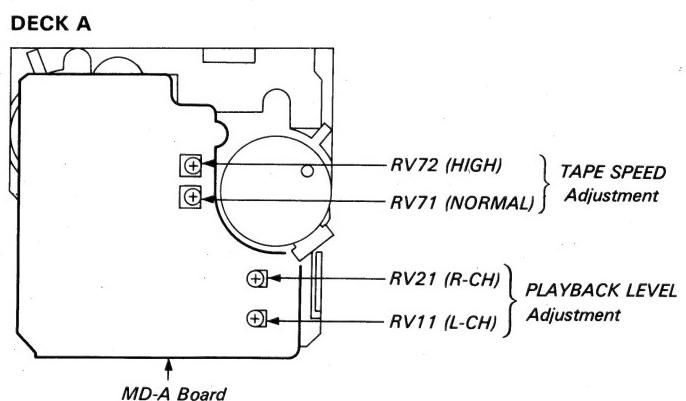
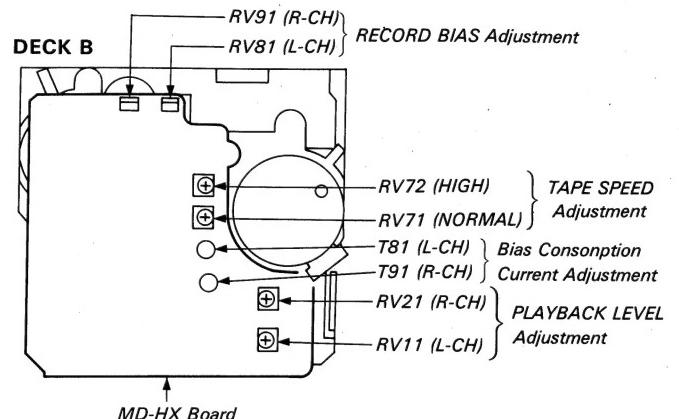
3. Playback the signal recorded in step 1.

Confirm that the signal level is within the adjustment limits below. If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the step 1-2.

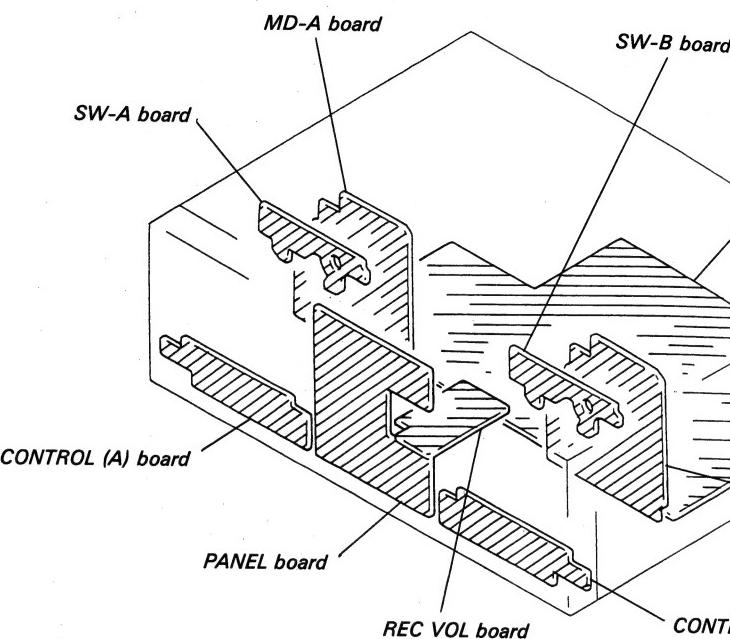
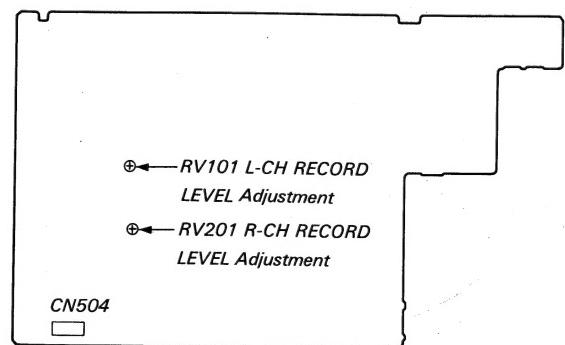
Adjustment Limits : $-27.7\text{dB} \pm 0.5\text{dB}$ (30.2–33.8mV)

Adjustment Location : MAIN board (component side)

— Adjustment Parts Location Diagrams —

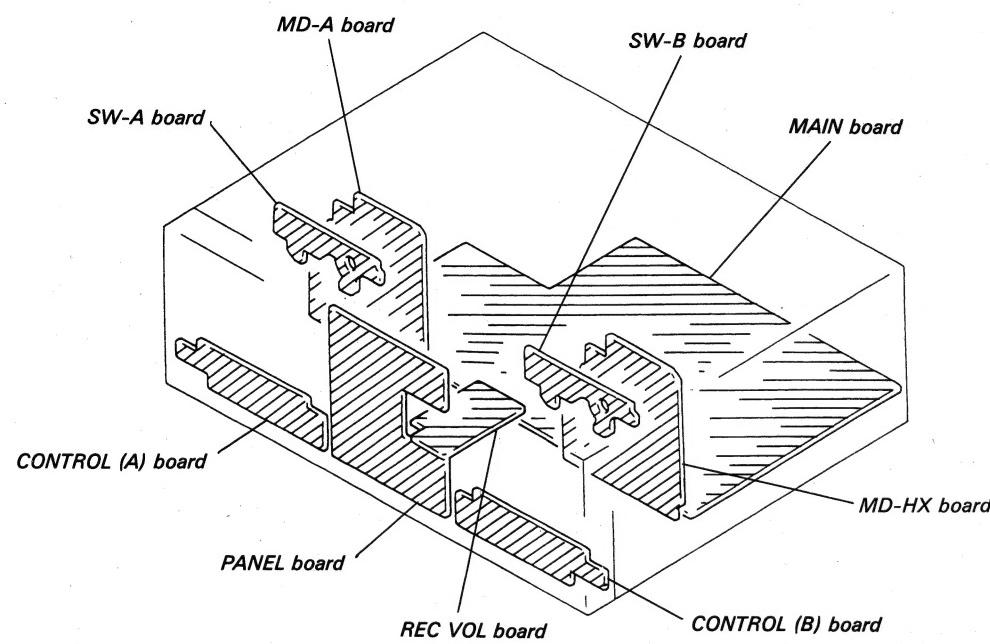


MAIN BOARD (COMPONENT SIDE)

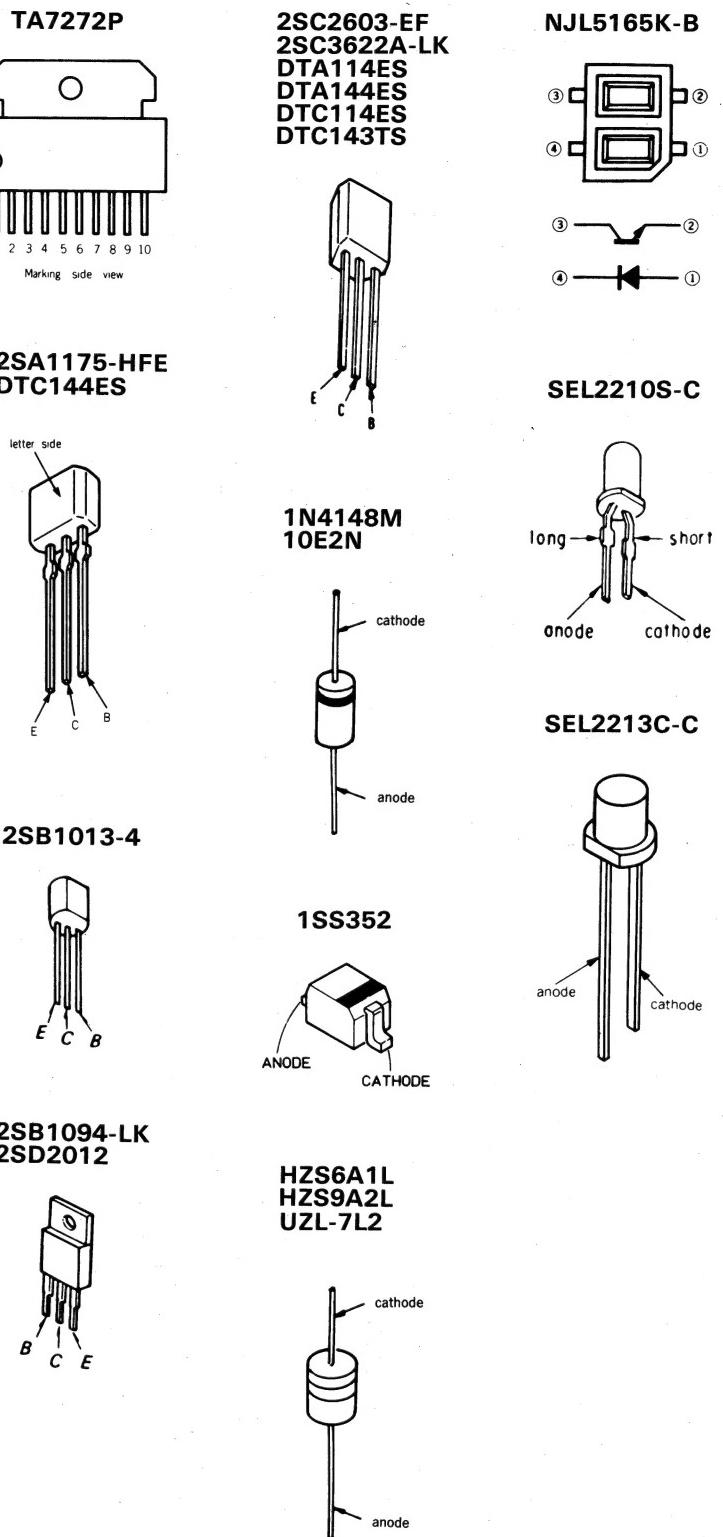


SECTION 4 DIAGRAMS

CIRCUIT BOARDS LOCATION



4-2. SEMICONDUCTOR LEAD LAYOUTS



4-3. PRINTED WIRING BOARDS -MAIN Section-
• See page 10, 11 Circuit boards location and Semiconductor lead layouts.

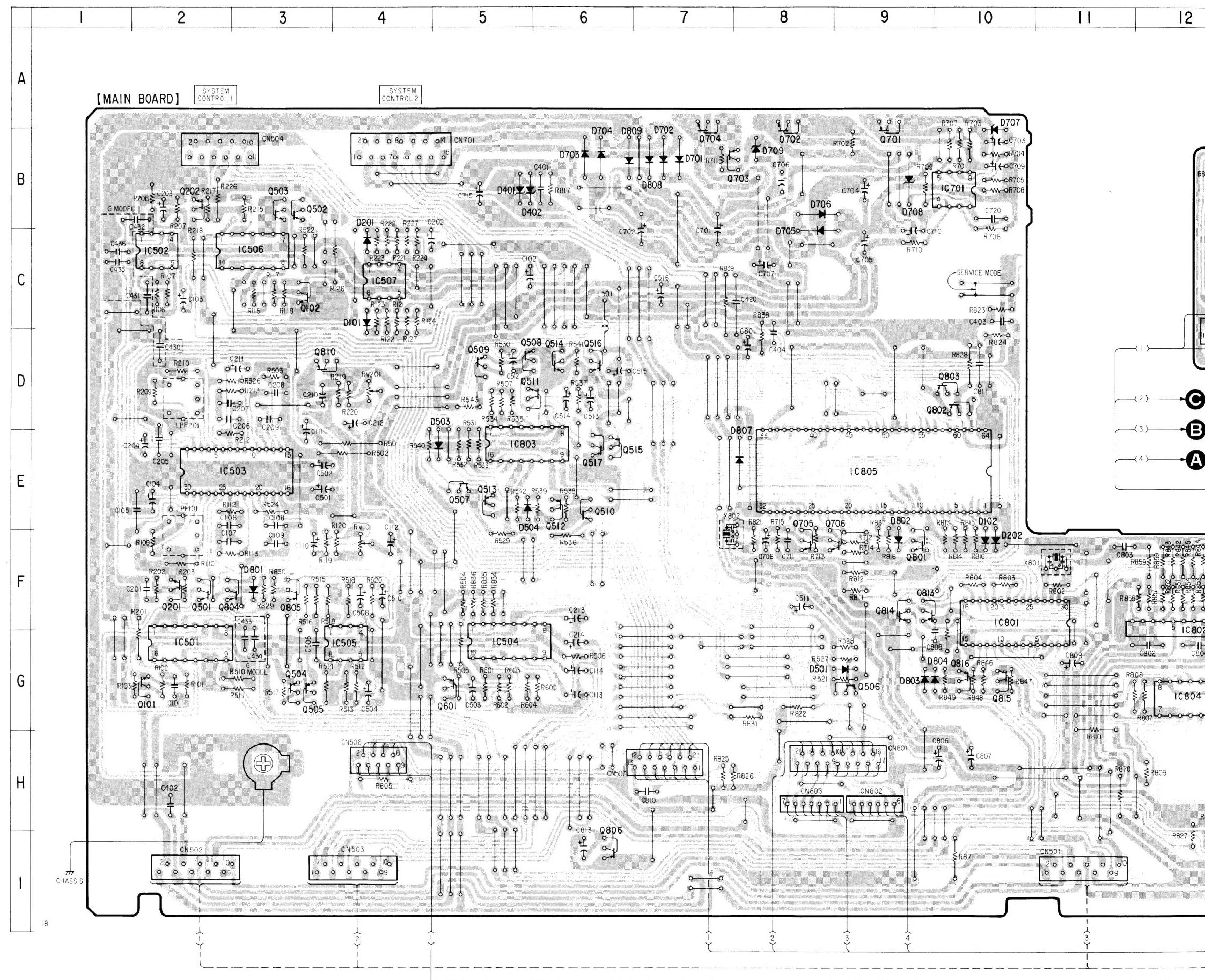
● Semiconductor Location

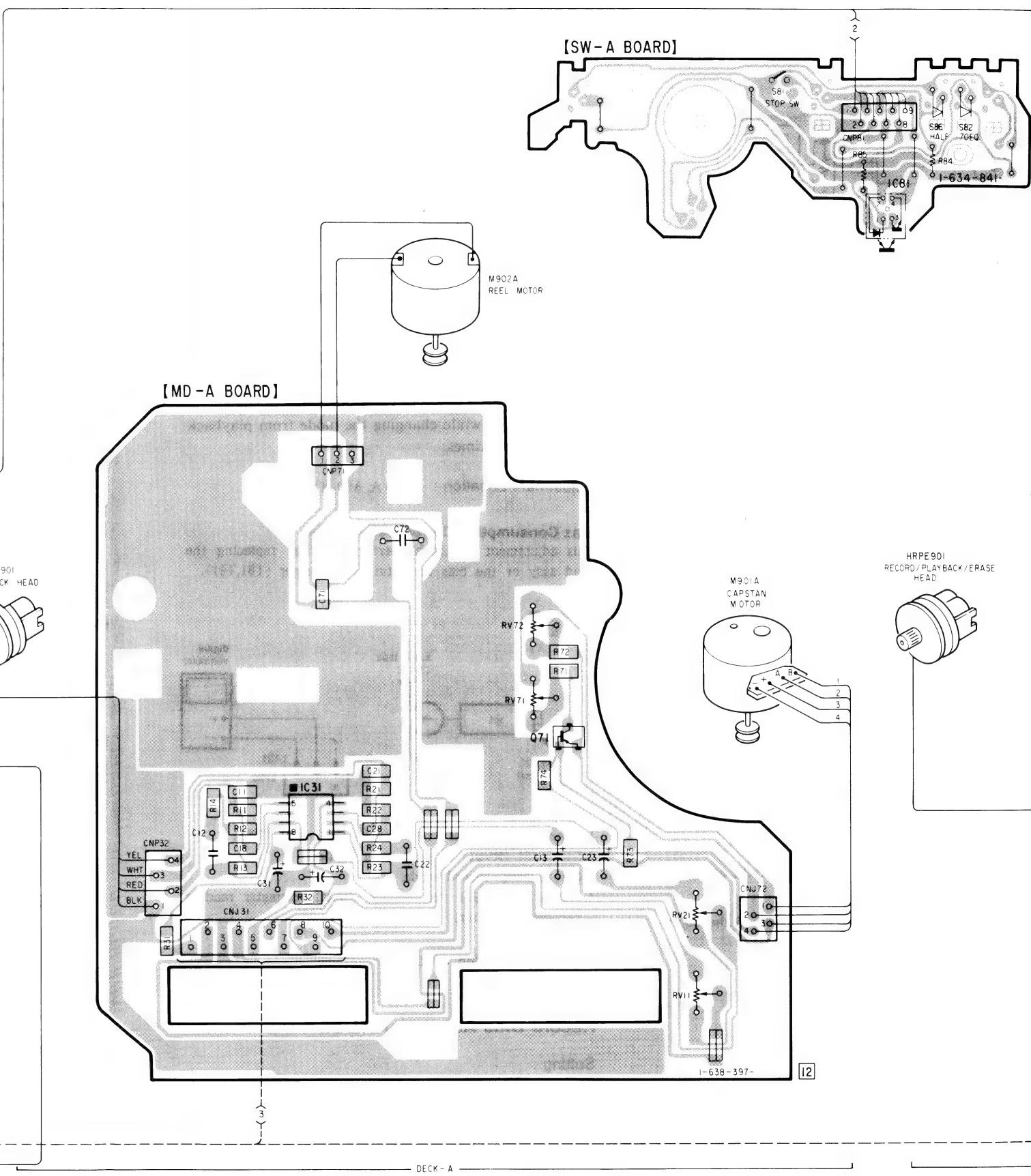
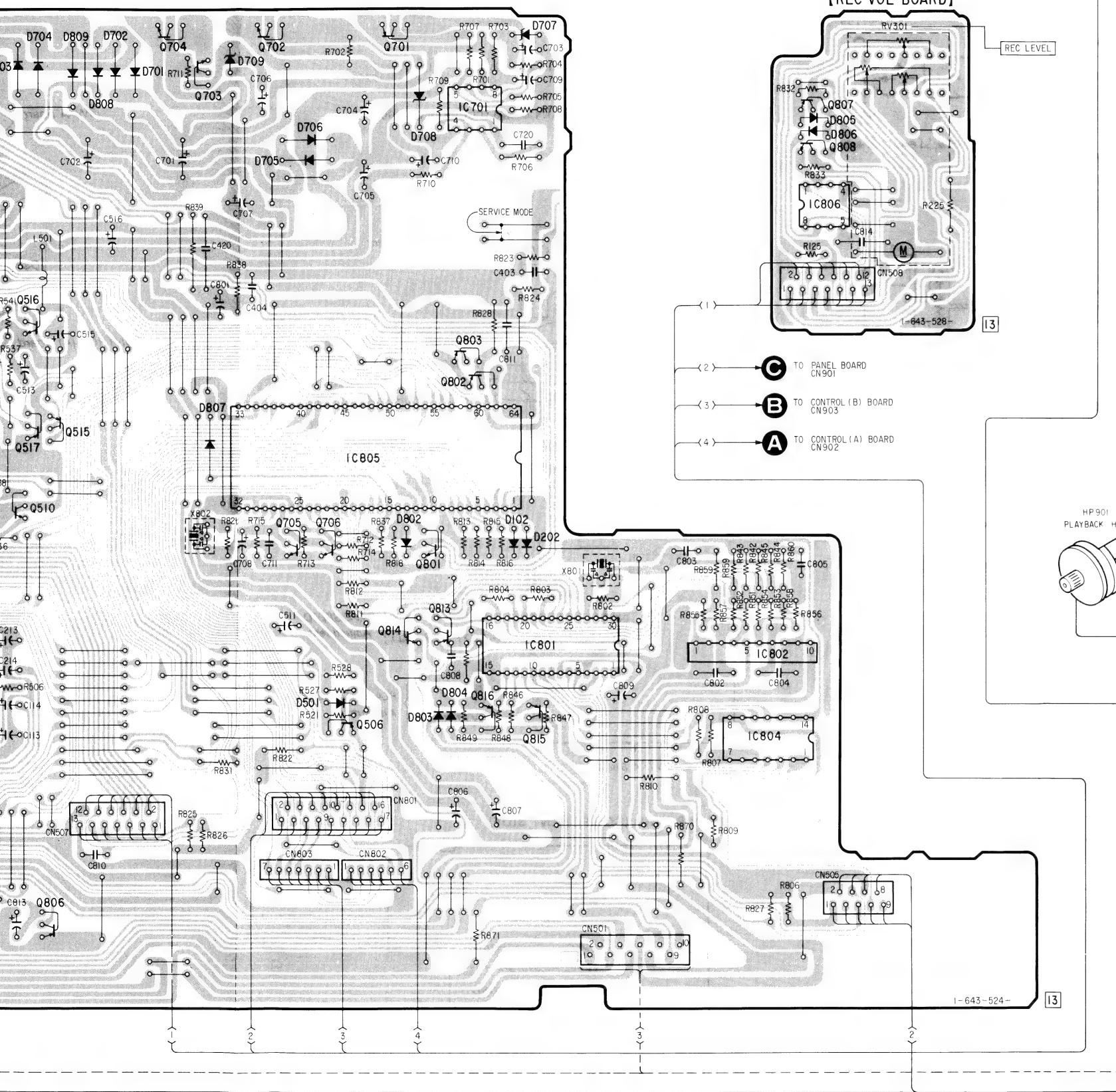
Ref. No.	Location	Ref. No.	Location
D31	G-23	Q51	F-24
D101	C-4	Q52	F-25
D102	F-10	Q53	F-24
D201	C-4	Q71(MD-A)	G-19
D202	F-10	Q71(MD-HX)	G-26
D401	B-5	Q101	G-2
D402	B-5	Q102	C-3
D501	G-9	Q201	F-2
D503	E-5	Q202	B-2
D504	E-5	Q501	F-2
D701	B-7	Q502	B-3
D702	B-7	Q503	B-3
D703	B-6	Q504	G-3
D704	B-6	Q505	G-3
D705	B-8	Q506	G-9
D706	B-8	Q507	E-5
D707	B-10	Q508	D-5
D708	B-9	Q509	D-5
D709	B-8	Q510	E-6
D801	F-3	Q511	D-6
D802	F-9	Q512	E-9
D803	G-9	Q513	E-5
D804	G-10	Q514	D-6
D805	B-12	Q515	E-6
D806	B-12	Q516	D-6
D807	E-8	Q601	G-5
D808	B-7	Q701	A-9
D809	B-6	Q702	A-8
IC31(MD-A)	G-17	Q703	B-8
IC31(MD-HX)	G-25	Q704	A-7
IC81(SW-A)	C-22	Q705	F-8
IC81(SW-HX)	F-25	Q706	F-9
IC501	G-2	Q801	F-9
IC502	C-2	Q802	D-10
IC503	E-3	Q803	D-10
IC504	G-5	Q804	F-3
IC505	G-4	Q805	F-3
IC506	C-3	Q806	I-6
IC507	C-4	Q807	B-12
IC701	B-10	Q808	B-12
IC801	F-10	Q810	D-3
IC802	F-12	Q813	F-9
IC803	E-5	Q814	F-9
IC804	G-12	Q815	G-10
IC805	E-9	Q816	G-10
IC806	B-12		

Note:

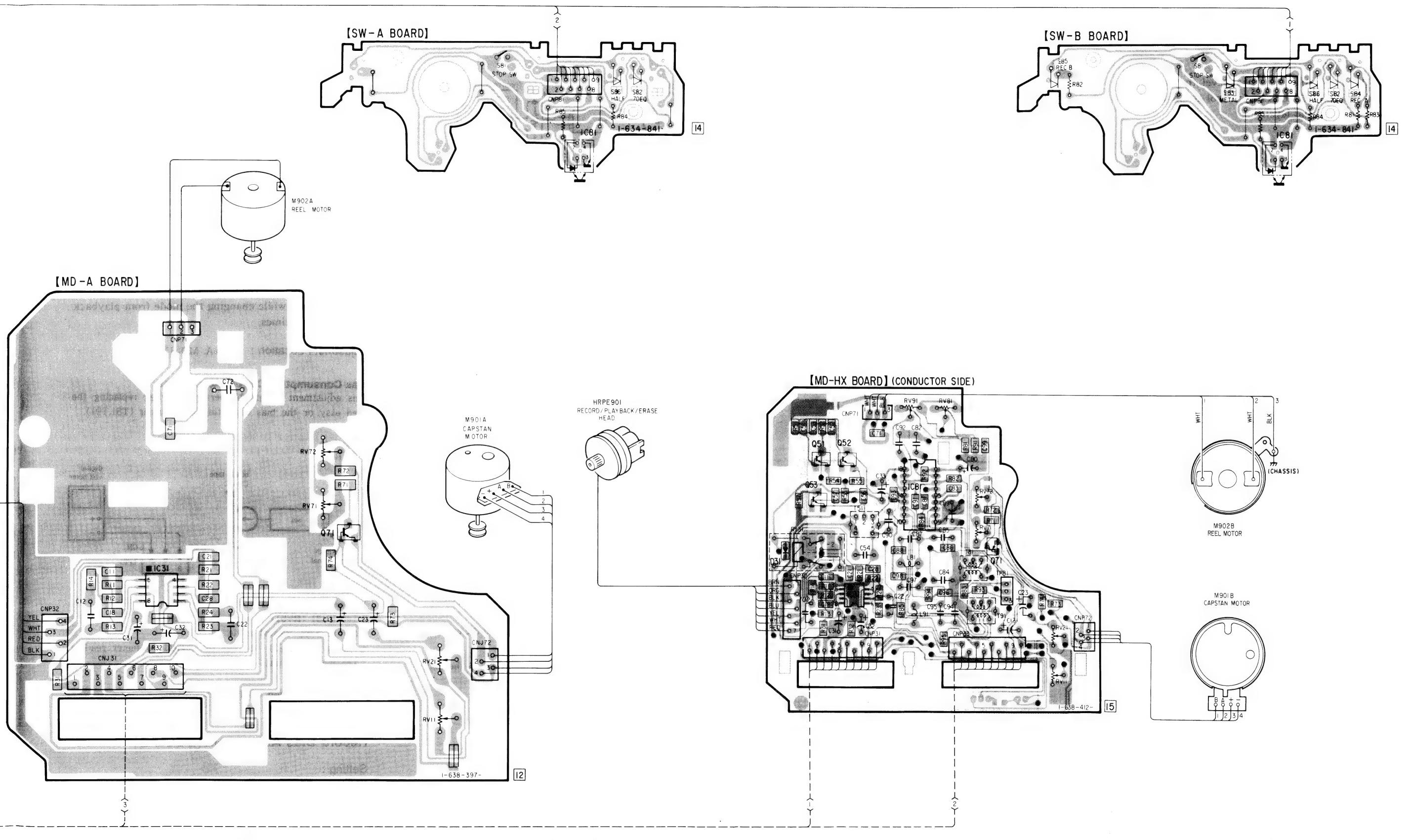
- ○ : parts extracted from the component side.
- — : parts extracted from the conductor side.
- ● : Through hole.
- ■ : Pattern on the side which is seen.
- □ : Pattern of the rear side.

G:Germany





15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30



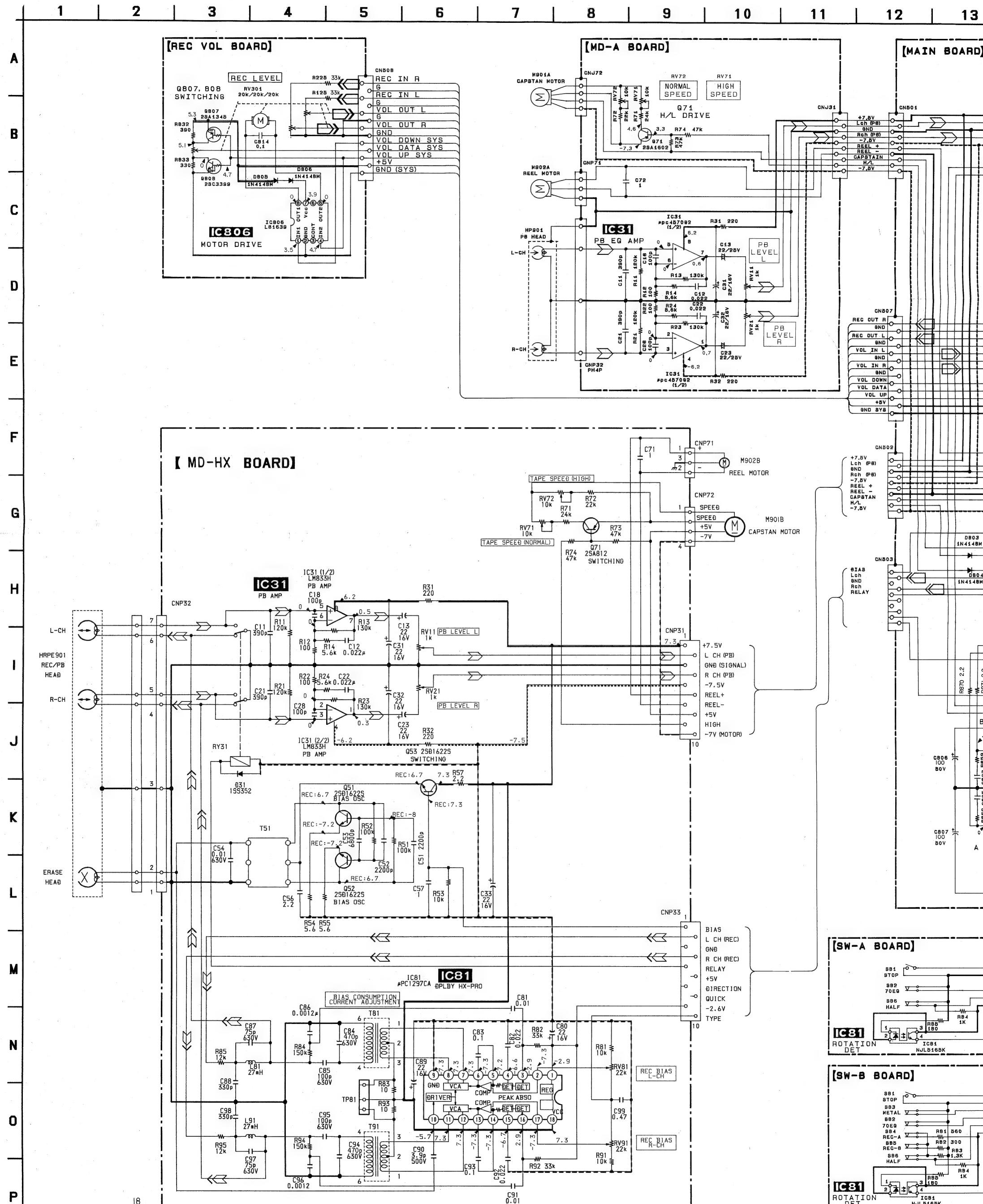
4-4. SCHEMATIC DIAGRAMS -MAIN Section-

• See page 21 for IC Block Diagrams.

Note:

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- \triangle : internal component.
- \square : nonflammable resistor.
- --- : B+ Line
- -- : B- Line
- $\boxed{\text{---}}$: adjustment for repair.

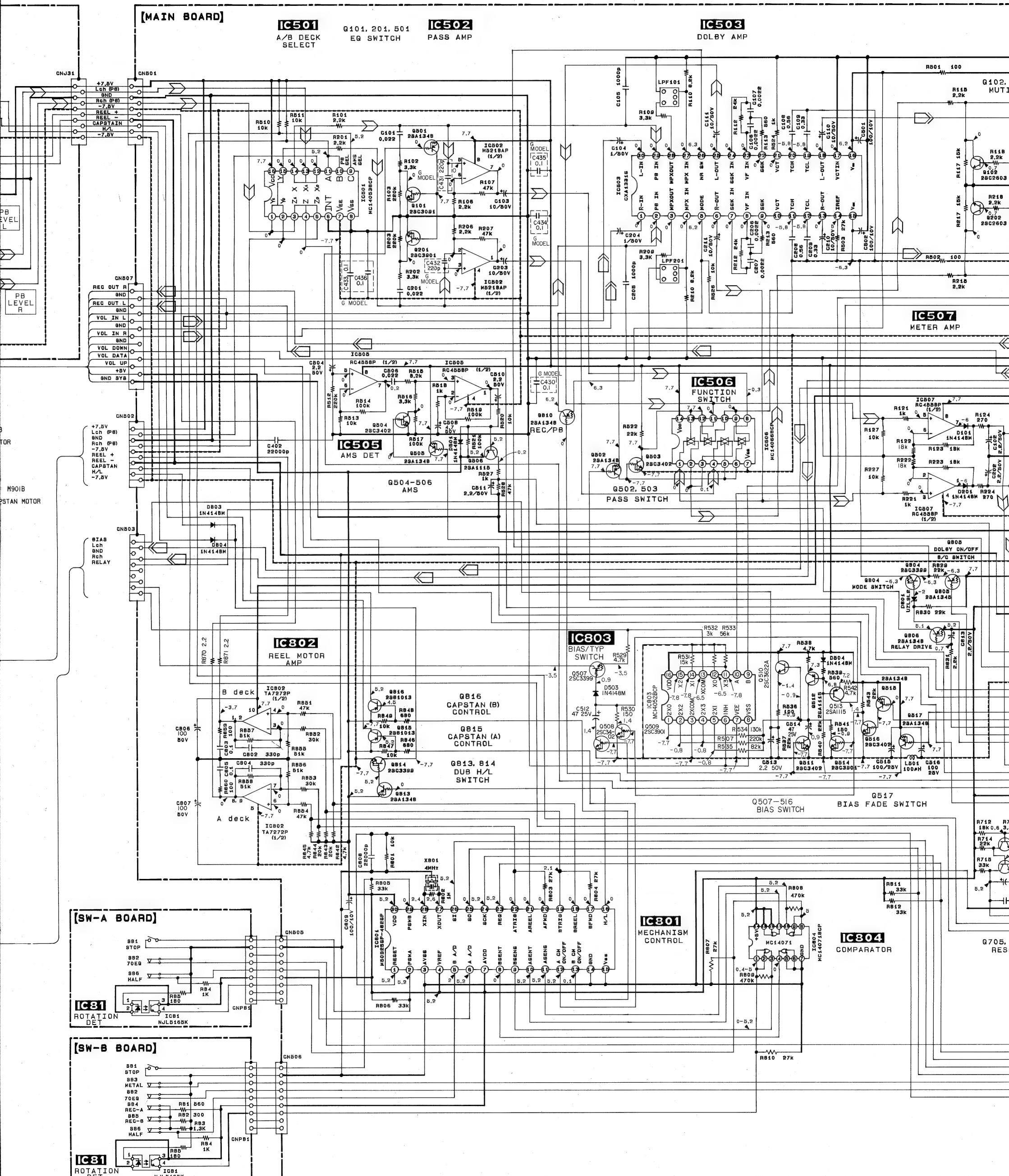
- Voltage is dc with resp under no-signal (detuned) no mark: REC
- Voltages are taken with a Voltage variations may tolerances.
- Signal path:
 - \Rightarrow : PB (DECK A)
 - \square : PB (DECK B)
 - \Rightarrow : REC (DECK B)
- G:Germany



e noted. pF: $\mu\mu F$
for electrolytics
unless otherwise

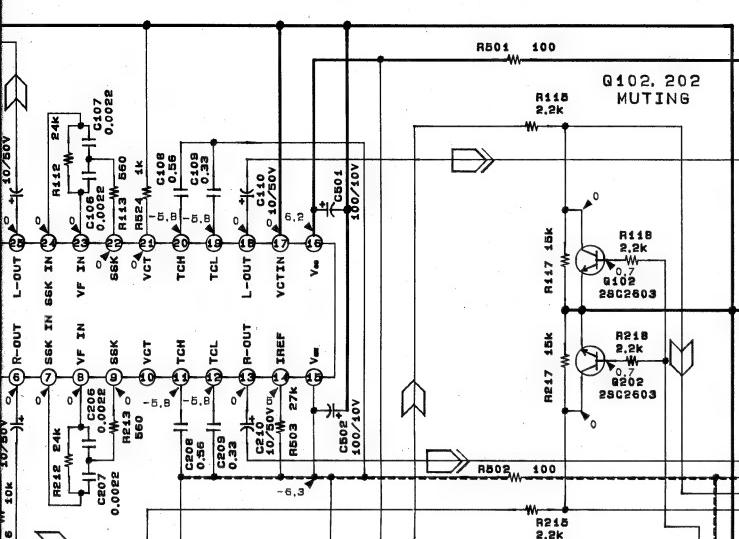
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
no mark: REC
 - Voltages are taken with a VOM (Input Impedance $10M\Omega$).
Voltage variations may be noted due to normal production tolerances.
 - Signal path.
 - : PB (DECK A)
 - : PB (DECK B)
 - : REC (DECK B)
 - G:Germany

11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23

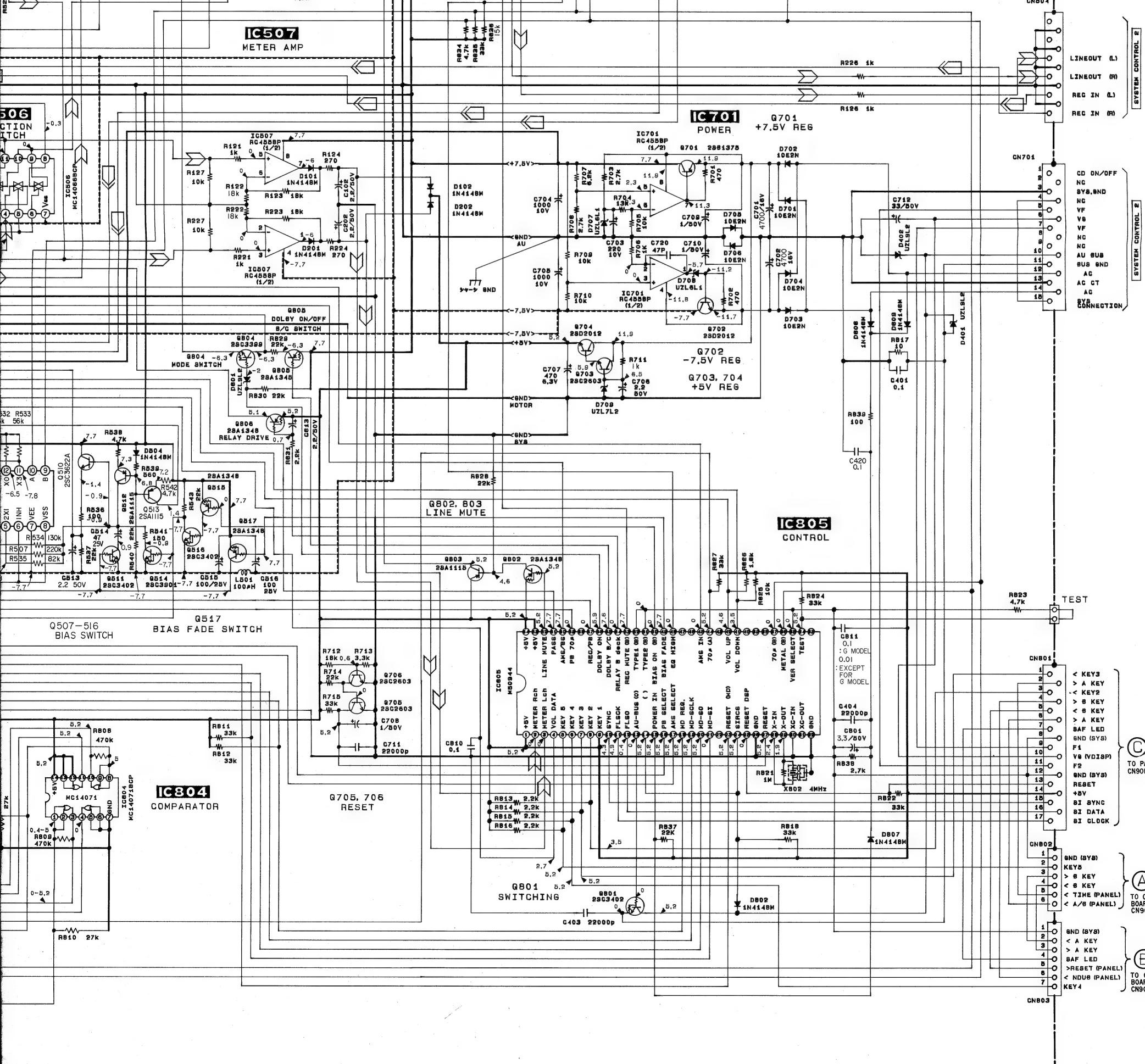


20 21 22 23 24 25 26 27 28 29 30 31 32

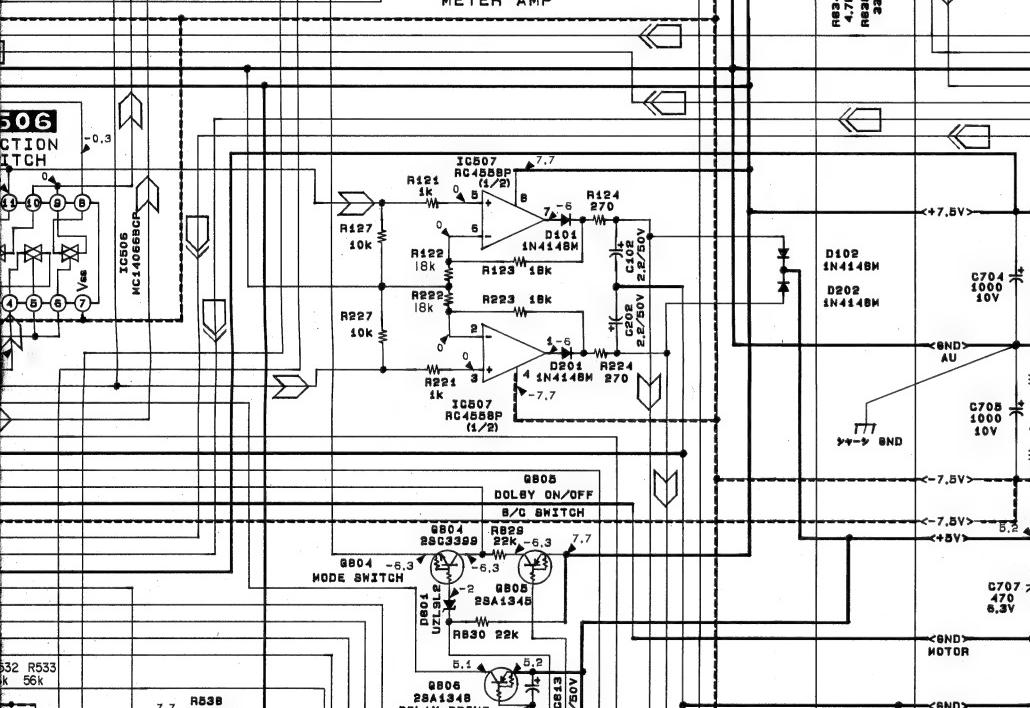
503
BY AMP



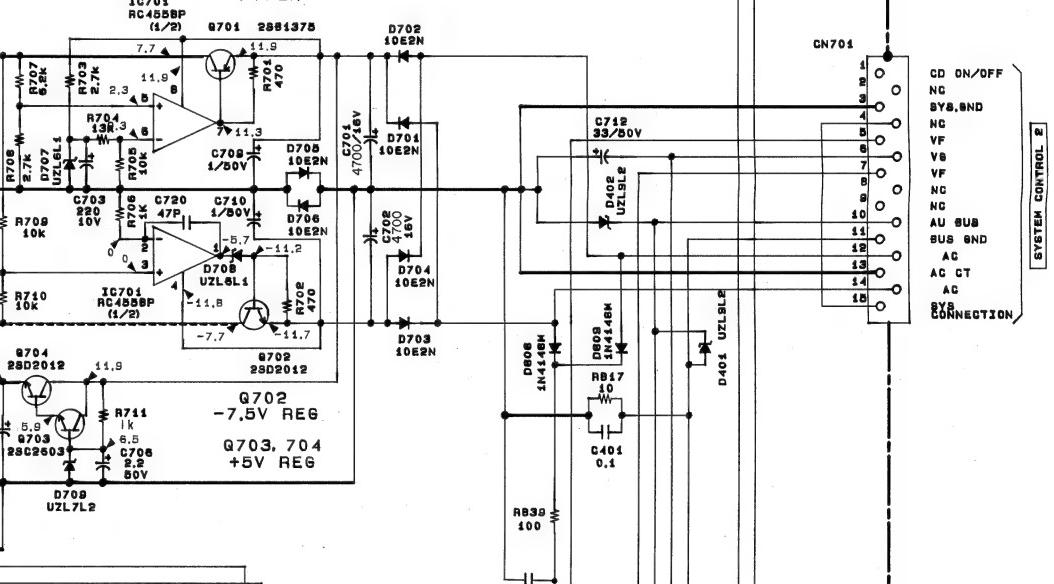
IC504
REC EQ



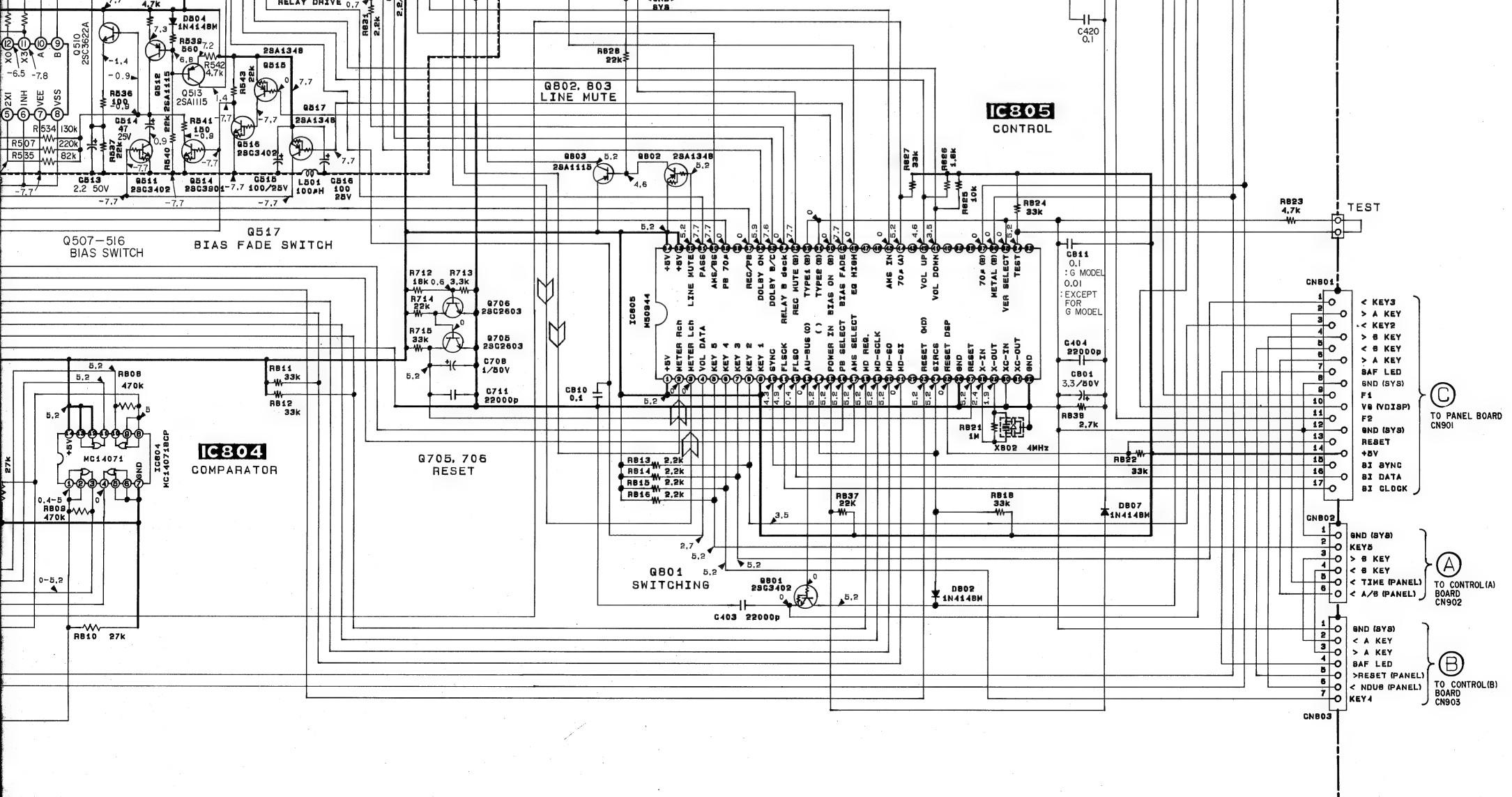
IC507
METER AMP



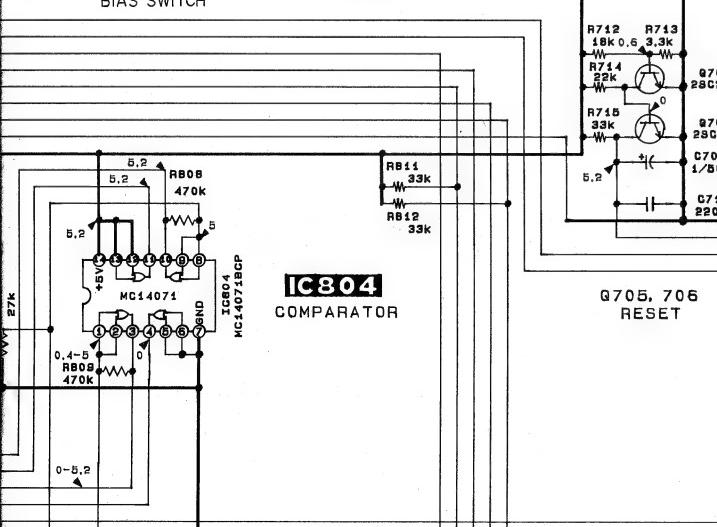
IC701
POWER +7.5V REG



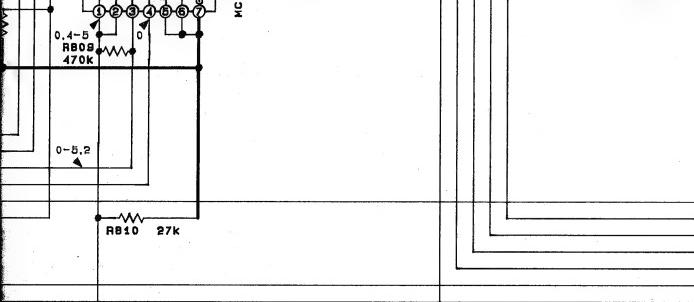
IC805
CONTROL



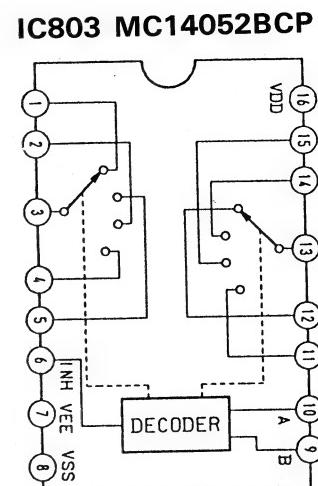
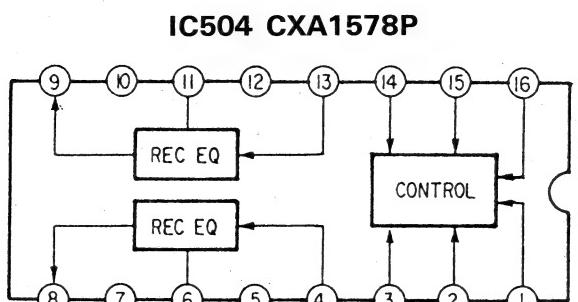
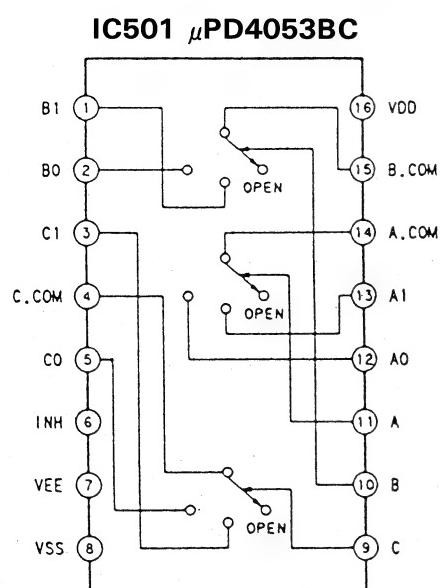
Q507-516
BIAS SWITCH



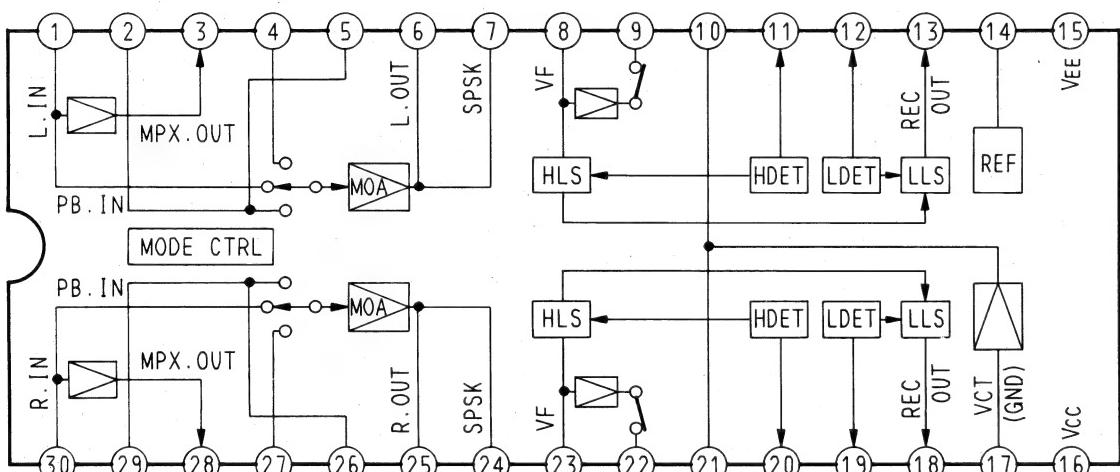
IC804
COMPARATOR



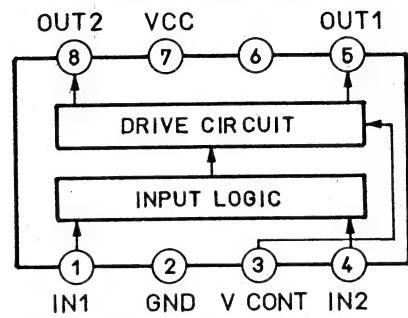
● IC Block Diagrams



IC503 CXA1331S



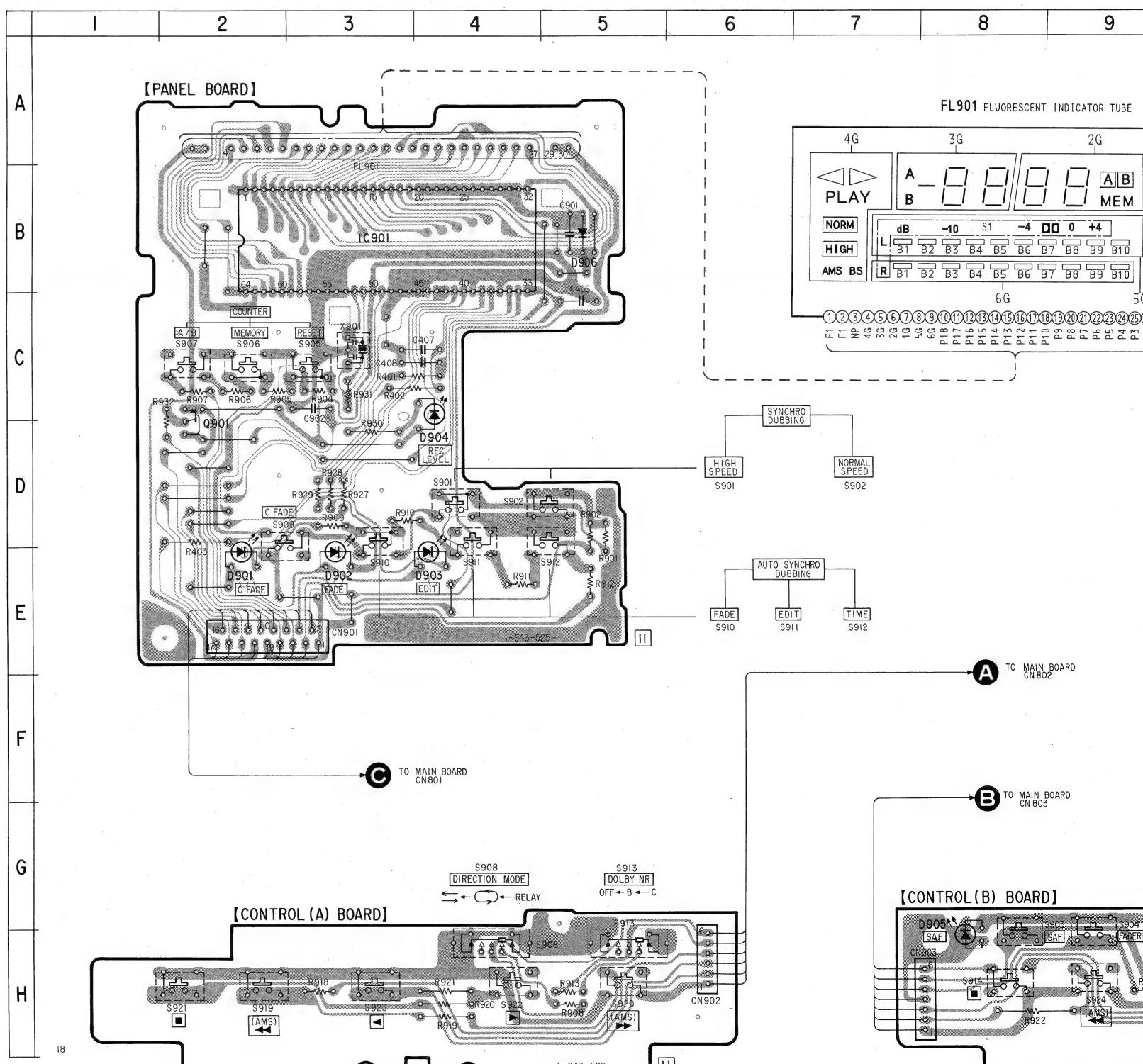
IC806 LB1639



4-5. PRINTED WIRING BOARDS –PANEL Section–

- See page 10, 11 Circuit boards location and Semiconductor lead layouts.

● Semiconductor Location	
Ref. No.	Location
D901	E-2
D902	E-3
D903	E-4
D904	D-4
D905	H-8
D906	B-5
IC901	B-3
Q901	D-2

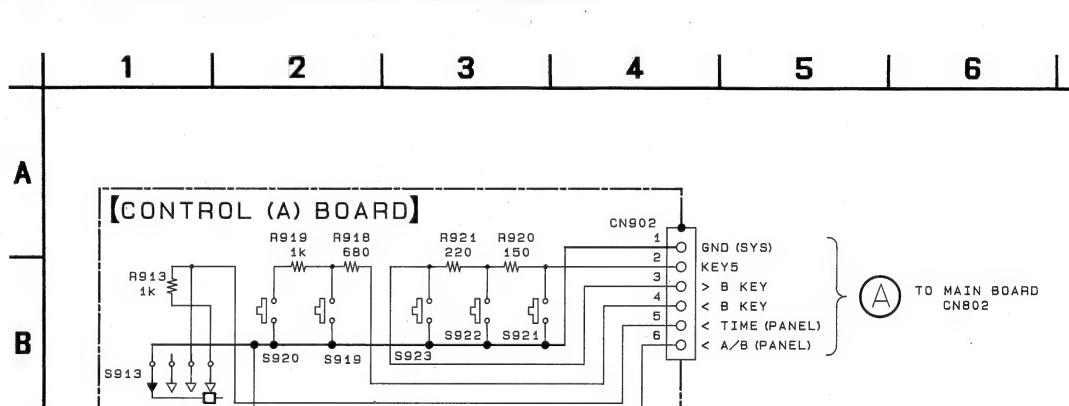
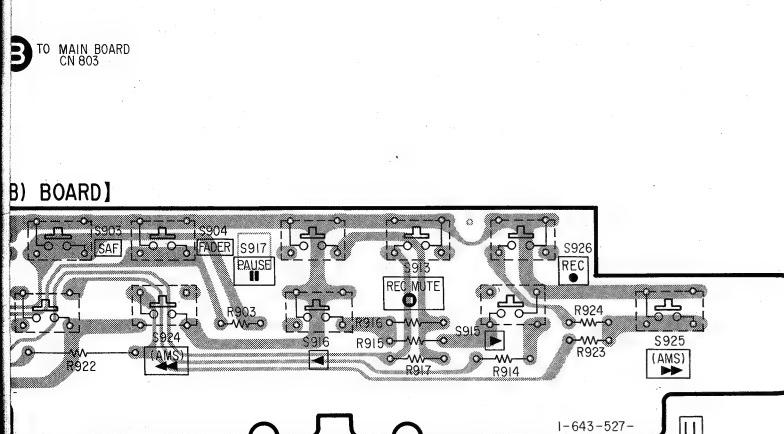
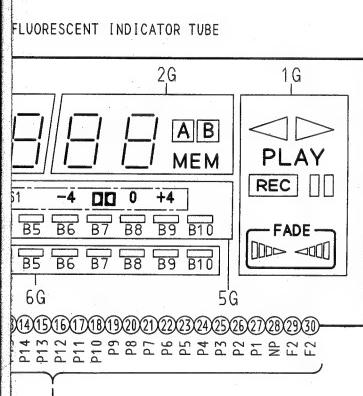


Note:

- : parts extracted from the component side.
 - : Pattern on the side which is seen.

4-6. SCHEMATIC DIAGRAMS -PANEL Section-

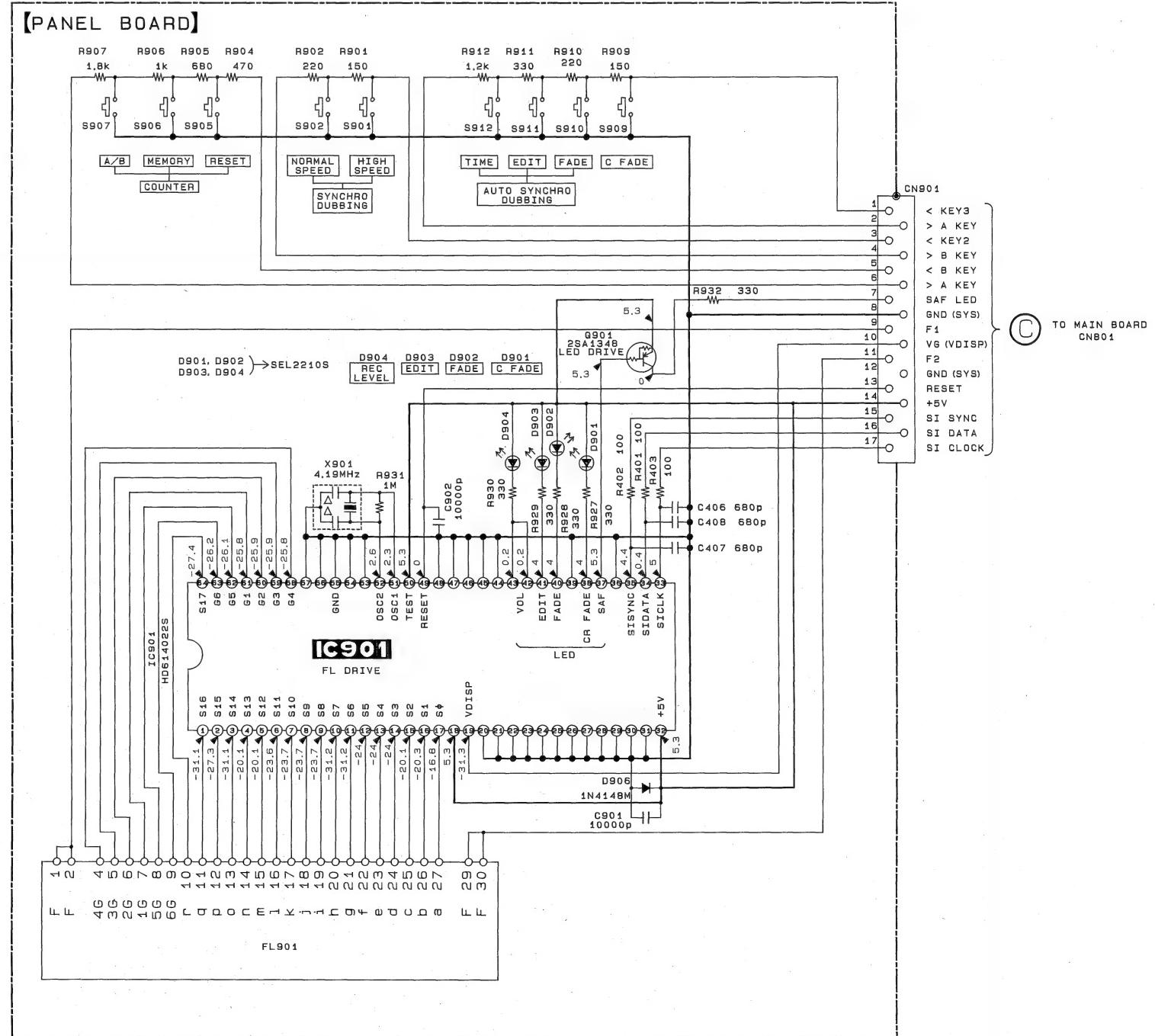
8 | 9 | 10 | 11 | 12 |



Note:

- All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$
50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- \triangle : internal component.
- --- : B+ Line
- Voltage is dc with respect to ground
under no-signal (detuned) conditions.
no mark: REC
- Voltages are taken with a VOM (Input Impedance $10M\Omega$).
Voltage variations may be noted due to normal production tolerances.

4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16



SECTION 5 EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.

- Color Indication of Appearance Parts Example:

KNOB, BALANCE(WHITE)...(RED)

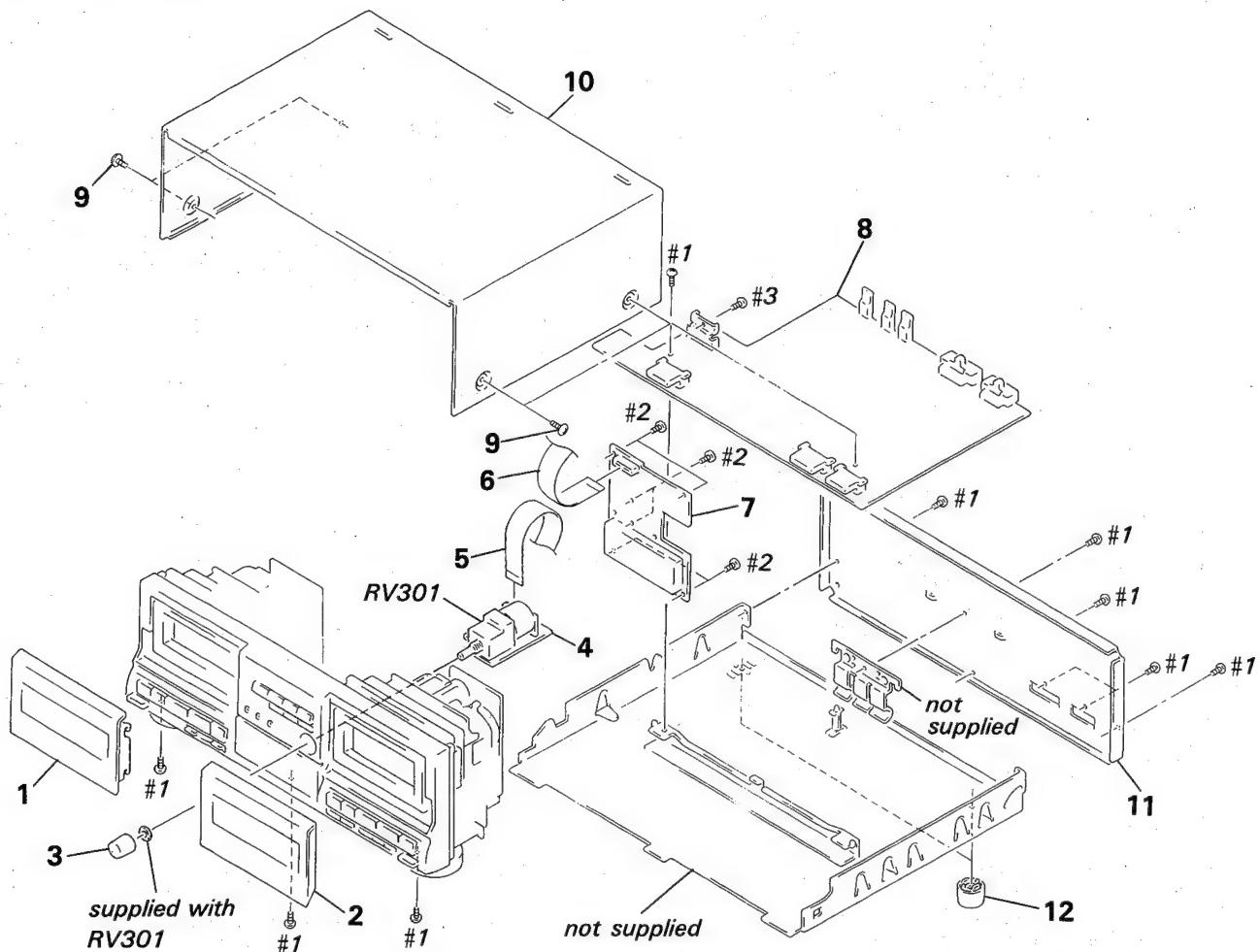
↑ ↑
Parts color Cabinet's color

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- hardware (#mark) list is given in the last of this parts list.

G:Germany EA:Saudi Arabia

IT:Italian AUS:Australian

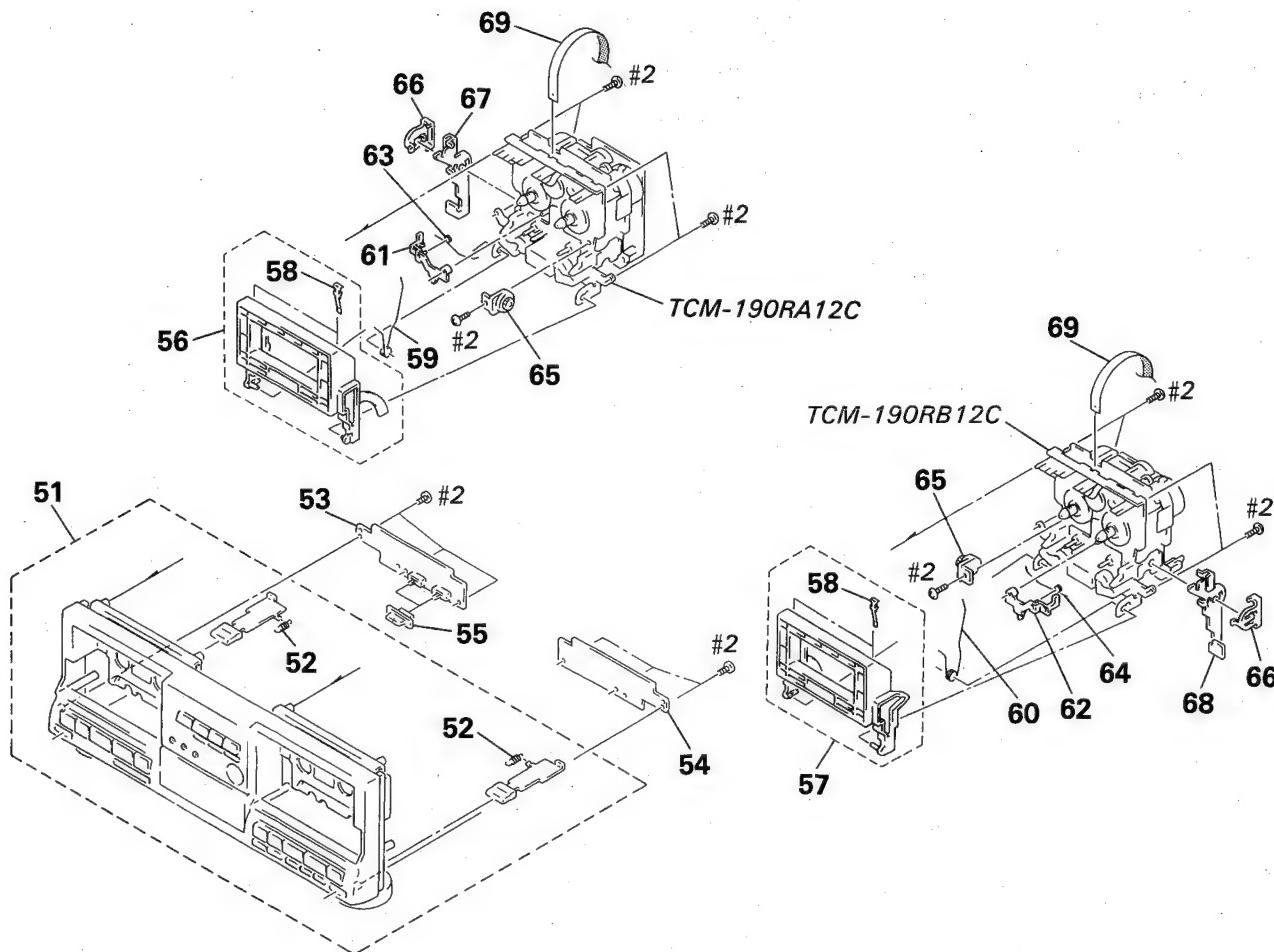
5-1. OVERALL SECTION



Ref. No.	Part No.	Description	Remark
1	X-3364-983-1	LID (A) ASSY, CASSETTE (EXCEPT IT)	
1	X-3364-984-1	LID (A) ASSY, CASSETTE (IT)	
2	X-3364-985-1	LID (B) ASSY, CASSETTE (EXCEPT IT)	
2	X-3364-986-1	LID (B) ASSY, CASSETTE (IT)	
3	4-950-651-21	KNOB (DIA. 16), ROUND (IT)	
3	4-950-651-31	KNOB (DIA. 16), ROUND (EXCEPT IT)	
* 4	1-643-528-11	REC VOL BOARD	
* 5	1-574-726-11	WIRE, FLAT TYPE (13 CORE)	
6	1-690-907-11	WIRE (FLAT TYPE) (17 CORE)	
* 7	A-2006-797-A	PANEL BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
* 8	A-2006-796-A	MAIN BOARD, COMPLETE (EXCEPT G)	
* 8	A-2006-837-A	MAIN BOARD, COMPLETE (G)	
9	3-363-099-01	SCREW (CASE +3X8 TP2)	
* 10	4-939-803-31	CASE (EXCEPT IT)	
* 10	4-939-803-71	CASE (IT)	
* 11	3-377-136-51	PANEL, BACK (EXCEPT G)	
* 11	3-377-136-61	PANEL, BACK (G)	
12	4-931-169-01	FOOT	
RV301	1-241-891-11	RES, VAR, CARBON 20KX3 (REC LEVEL)	

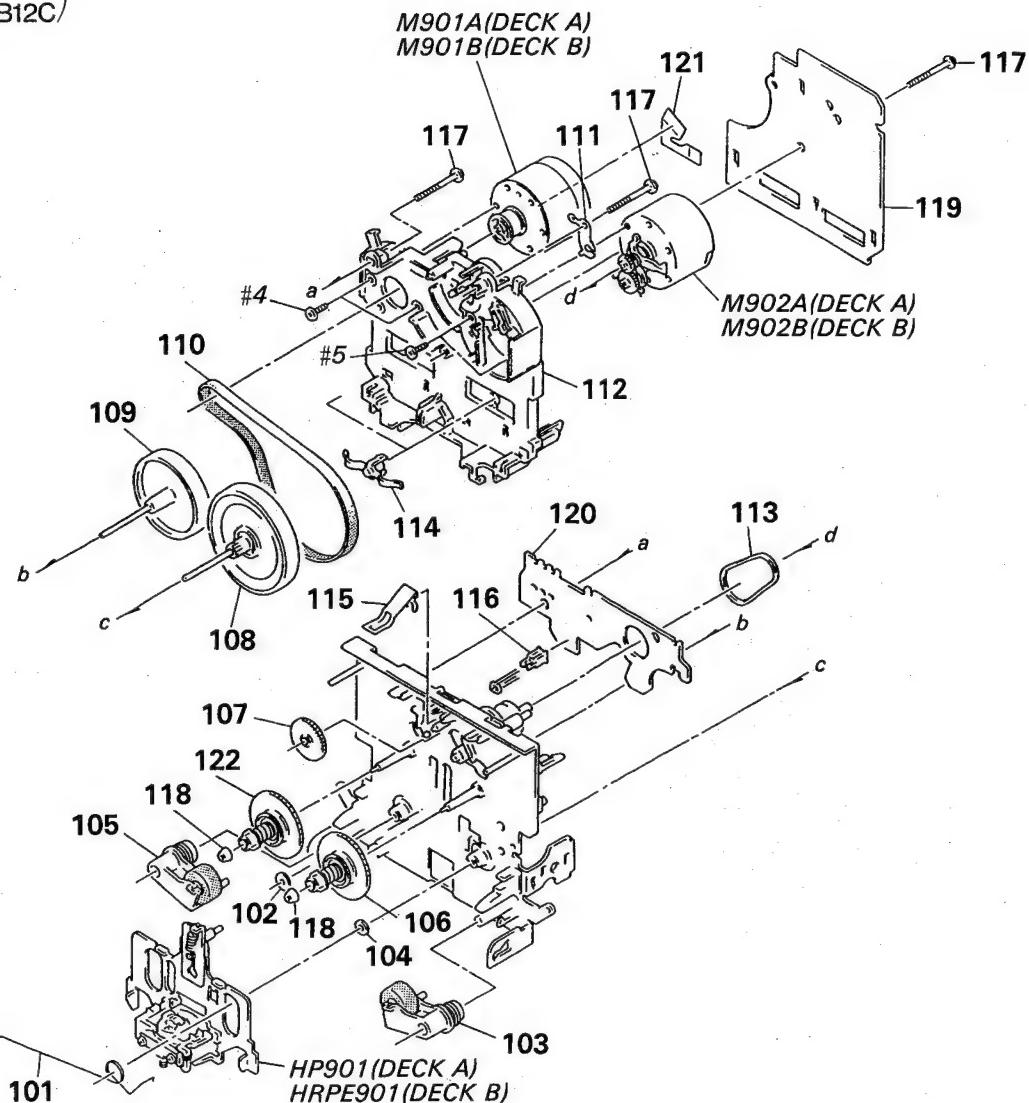
5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	X-3364-708-1	PANEL ASSY, FRONT (EXCEPT IT)	
51	X-3364-709-1	PANEL ASSY, FRONT (IT)	
52	3-662-752-21	SPRING, TENSION	
* 53	1-643-526-11	CONTROL (A) BOARD	
* 54	1-643-527-11	CONTROL (B) BOARD	
55	3-377-120-01	KNOB (SLIDE) (EXCEPT IT)	
55	3-377-120-11	KNOB (SLIDE) (IT)	
56	X-3340-194-1	HOLDER (L) ASSY, CASSETTE	
57	X-3340-195-1	HOLDER (R) ASSY, CASSETTE	
58	3-308-823-11	SPRING	
59	3-354-959-01	SPRING (LOADING L), TORSION	

Ref. No.	Part No.	Description	Remark
60	3-354-960-01	SPRING (LOADING R), TORSION	
61	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
62	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
63	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
64	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
65	3-354-963-01	DAMPER	
66	3-354-957-01	JOINT (LOCK LEVER)	
* 67	3-363-638-01	LEVER (LOCK LEVER L)	
* 68	3-363-639-01	LEVER (LOCK LEVER R)	
69	1-690-906-11	WIRE (FLAT TYPE) (9 CORE)	

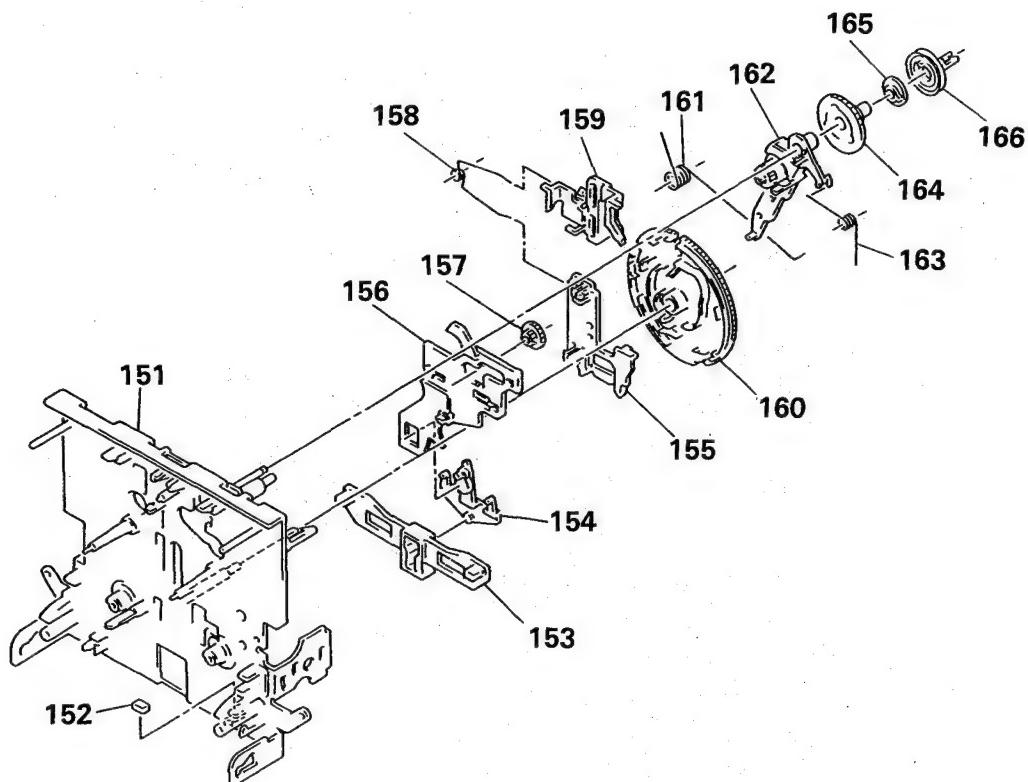
5-3. MECHANISM SECTION-1

(TCM-190RA12C)
(TCM-190RB12C)

Ref. No.	Part No.	Description	Remark
101	3-359-455-01	SPRING, TORSION	
102	3-356-714-01	WASHER	
103	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
104	3-356-713-01	WASHER	
105	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
106	X-3359-404-1	TABLE ASSY, REEL	
107	3-359-424-01	GEAR (REV GEAR)	
108	X-3364-554-1	FLYWHEEL (FWD) ASSY	
109	X-3359-410-1	FLYWHEEL (REV) ASSY	
110	3-359-417-01	BELT (FLAT), CAPSTAN	
111	3-359-450-01	PLATE, GROUND	
* 112	3-359-436-01	BASE (THRUST RETAINER), FITTING	
113	3-359-466-01	BELT (FR), SQUARE	
114	3-575-321-00	RETAINER, THRUST, CAPSTAN	
115	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF	

Ref. No.	Part No.	Description	Remark
116	3-343-419-01	HOLDER (S SENSER A)	
117	3-359-414-01	SCREW (+PTPWH 2X23)	
118	3-362-308-01	CAP (REEL)	
* 119	A-2006-399-A	MD-A BOARD, COMPLETE (DECK A)	
* 119	A-2006-401-A	MD-HX BOARD, COMPLETE (DECK B)	
* 120	1-634-841-14	SW-A BOARD (DECK A)	
* 120	1-634-841-14	SW-B BOARD (DECK B)	
121	1-638-983-11	MOTOR FLEXIBLE BOARD	
122	X-3362-078-1	TABLE ASSY (B), REEL	
M901A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M901B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M902A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M902B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	
HP901	A-2003-837-A	BASE ASSY, HEAD (PB) (DECK A)	
HRPE901A	2003-838-A	BASE ASSY, HEAD (PB/REC/ERASE) (DECK B)	

5-4. MECHANISM SECTION-2
 (TCM-190RA12C)
 (TCM-190RB12C)



Ref. No.	Part No.	Description	Remark
151	X-359-415-1	CHASSIS ASSY, MECHANICSL	
152	3-359-469-01	SPACER	
* 153	3-359-425-01	SLIDER (REVERSE SLIDER)	
154	3-359-426-01	LEVER (REVERSE LEVER)	
* 155	3-359-427-01	SLIDER (LEVERSE SLIDER)	
* 156	3-359-415-01	SLIDER (TRIGGER SLIDER)	
157	3-359-448-01	GEAR (TRIGGER)	
158	3-359-454-01	SPRING, TORSION	

Ref. No.	Part No.	Description	Remark
159	3-359-429-01	SLIDER (BRAKE PLATE)	
160	3-359-420-01	GEAR (CAM GEAR)	
161	3-359-456-01	SPRING (TRIGGER SPRING), TORSION	
162	X-3359-405-1	LEVER (FR ARM) ASSY	
163	3-359-453-01	SPRING (FR ARM), TORSION	
164	3-359-419-01	GEAR (FR GEAR)	
165	3-359-421-01	CLUTCH (REEL DISK)	
166	3-359-418-01	PULLEY (FR PULLEY)	

SECTION 6

ELECTRICAL PARTS LIST

CONTROL (A)**COTROL (B)****MAIN****NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA .. : μ A.. uPA.. : μ PA..
uPB.. : μ PB.. uPC.. : μ PC.. uPD.. : μ PD..
- CAPACITORS
uF: μ F
- COILS
uH: μ H
- G: Germany

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark
*	1-643-526-11	CONTROL (A) BOARD	*****
		< CONNECTOR >	
*CN902	1-564-499-11	PIN, CONNECTOR 6P	
		< RESISTOR >	
R908	1-249-424-11	CARBON 3.9K 5% 1/4W	
R913	1-249-417-11	CARBON 1K 5% 1/4W	
R918	1-249-415-11	CARBON 680 5% 1/4W	
R919	1-249-417-11	CARBON 1K 5% 1/4W	
R920	1-249-407-11	CARBON 150 5% 1/4W	
R921	1-249-409-11	CARBON 220 5% 1/4W	
		< SWITCH >	
S908	1-572-378-11	SWITCH, SLIDE (DIRECTION MODE)	
S913	1-572-378-11	SWITCH, SLIDE (DOLBY NR)	
S919	1-554-303-21	SWITCH, TACTILE (AMS REW)	
S920	1-554-303-21	SWITCH, TACTILE (AMS FF)	
S921	1-554-303-21	SWITCH, TACTILE (STOP)	
S922	1-554-303-21	SWITCH, TACTILE (FWD)	
S923	1-554-303-21	SWITCH, TACTILE (REV)	

*	1-643-527-11	CONTROL (B) BOARD	*****
		< CONNECTOR >	
*CN903	1-564-500-11	PIN, CONNECTOR 7P	
		< DIODE >	
D905	8-719-302-23	LED SEL2213C-C (SAF)	

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	

R903	1-249-411-11	CARBON 330 5% 1/4W	
R914	1-249-407-11	CARBON 150 5% 1/4W	
R915	1-249-409-11	CARBON 220 5% 1/4W	
R916	1-249-411-11	CARBON 330 5% 1/4W	
R917	1-249-413-11	CARBON 470 5% 1/4W	
R922	1-249-419-11	CARBON 1.5K 5% 1/4W	
R923	1-249-417-11	CARBON 1K 5% 1/4W	
R924	1-249-420-11	CARBON 1.8K 5% 1/4W	
		< SWITCH >	
S903	1-554-303-21	SWITCH, TACTILE (SAF)	
S904	1-554-303-21	SWITCH, TACTILE (FADER)	
S914	1-554-303-21	SWITCH, TACTILE (STOP)	
S915	1-554-303-21	SWITCH, TACTILE (FWD)	
S916	1-554-303-21	SWITCH, TACTILE (REV)	
S917	1-554-303-21	SWITCH, TACTILE (PAUSE)	
S918	1-554-303-21	SWITCH, TACTILE (REC MUTE)	
S924	1-554-303-21	SWITCH, TACTILE (AMS REW)	
S925	1-554-303-21	SWITCH, TACTILE (AMS FF)	
S926	1-554-303-21	SWITCH, TACTILE (REC)	

*	A-2006-796-A	MAIN BOARD, COMPLETE (EXCEPT G)	
*	A-2006-837-A	MAIN BOARD, COMPLETE (G)	

*	4-942-204-01	PLATE, GROUND	
	7-685-645-79	SCREW +BVTP	3X6 TYPE2 N-S
		< CAPACITOR >	
C101	1-136-157-00	FILM 0.022uF 5% 50V	
C102	1-126-161-11	ELECT 2.2uF 20% 50V	
C103	1-126-059-11	ELECT 10uF 20% 50V	
C104	1-126-301-11	ELECT 1uF 20% 50V	

MAIN

Ref. No.	Part No.	Description		Remark	Ref. No.	Part No.	Description		Remark	
C105	1-162-294-31	CERAMIC	0.001uF	10%	50V	C701	1-126-937-11	ELECT	4700uF	20% 16V
C106	1-130-475-00	MYLAR	0.0022uF	5%	50V	C702	1-126-937-11	ELECT	4700uF	20% 16V
C107	1-130-475-00	MYLAR	0.0022uF	5%	50V	C703	1-126-101-11	ELECT	100uF	20% 16V
C108	1-136-174-00	FILM	0.56uF	5%	50V	C704	1-124-473-11	ELECT	1000uF	20% 10V
C109	1-136-171-00	FILM	0.33uF	5%	50V	C705	1-124-473-11	ELECT	1000uF	20% 10V
C110	1-126-059-11	ELECT	10uF	20%	50V	C706	1-126-161-11	ELECT	2.2uF	20% 50V
C111	1-126-059-11	ELECT	10uF	20%	50V	C707	1-124-472-11	ELECT	470uF	20% 10V
C112	1-126-162-11	ELECT	3.3uF	20%	50V	C708	1-126-301-11	ELECT	1uF	20% 50V
C113	1-126-300-11	ELECT	0.47uF	20%	50V	C709	1-126-301-11	ELECT	1uF	20% 50V
C114	1-126-059-11	ELECT	10uF	20%	50V	C710	1-126-301-11	ELECT	1uF	20% 50V
C201	1-136-157-00	FILM	0.022uF	5%	50V	C711	1-101-005-00	CERAMIC	22000PF	50V
C202	1-126-161-11	ELECT	2.2uF	20%	50V	C712	1-126-867-11	ELECT	33uF	20% 50V
C203	1-126-059-11	ELECT	10uF	20%	50V	C720	1-162-215-31	CERAMIC	47PF	5% 50V
C204	1-126-301-11	ELECT	1uF	20%	50V	C801	1-126-162-11	ELECT	3.3uF	20% 50V
C205	1-162-294-31	CERAMIC	0.001uF	10%	50V	C802	1-162-288-31	CERAMIC	330PF	10% 50V
C206	1-130-475-00	MYLAR	0.0022uF	5%	50V	C803	1-136-165-00	FILM	0.1uF	5% 50V
C207	1-130-475-00	MYLAR	0.0022uF	5%	50V	C804	1-162-288-31	CERAMIC	330PF	10% 50V
C208	1-136-174-00	FILM	0.56uF	5%	50V	C805	1-136-165-00	FILM	0.1uF	5% 50V
C209	1-136-171-00	FILM	0.33uF	5%	50V	C806	1-124-994-11	ELECT	100uF	20% 10V
C210	1-126-059-11	ELECT	10uF	20%	50V	C807	1-124-994-11	ELECT	100uF	20% 10V
C211	1-126-059-11	ELECT	10uF	20%	50V	C808	1-101-005-00	CERAMIC	22000PF	50V
C212	1-126-162-11	ELECT	3.3uF	20%	50V	C809	1-124-994-11	ELECT	100uF	20% 10V
C213	1-126-300-11	ELECT	0.47uF	20%	50V	C810	1-136-165-00	FILM	0.1uF	5% 50V
C214	1-126-059-11	ELECT	10uF	20%	50V	C811	1-161-379-00	CERAMIC	0.01uF	20% 25V (EXCEPT G)
C401	1-164-159-11	CERAMIC	0.1uF		50V	C811	1-164-159-11	CERAMIC	0.1uF	50V (G)
C402	1-101-005-00	CERAMIC	22000PF		50V	C813	1-126-161-11	ELECT	2.2uF	20% 50V
C403	1-101-005-00	CERAMIC	22000PF		50V	< CONNECTOR >				
C404	1-101-005-00	CERAMIC	22000PF		50V	*CN501	1-580-784-11	CONNECTOR, BOARD TO BOARD		
C420	1-164-159-11	CERAMIC	0.1uF		50V	*CN502	1-580-784-11	CONNECTOR, BOARD TO BOARD		
C430	1-164-159-11	CERAMIC	0.1uF		50V (G)	*CN503	1-580-784-11	CONNECTOR, BOARD TO BOARD		
C431	1-162-286-31	CERAMIC	220PF	10%	50V (G)	*CN504	1-566-858-41	SOCKET, CONNECTOR 11P		
C432	1-162-286-31	CERAMIC	220PF	10%	50V (G)	*CN505	1-568-828-11	SOCKET, CONNECTOR 9P		
C433	1-164-159-11	CERAMIC	0.1uF		50V (G)	*CN506	1-568-828-11	SOCKET, CONNECTOR 9P		
C434	1-164-159-11	CERAMIC	0.1uF		50V (G)	*CN507	1-568-832-11	SOCKET, CONNECTOR 13P		
C435	1-164-159-11	CERAMIC	0.1uF		50V (G)	*CN701	1-566-859-11	SOCKET, CONNECTOR 15P		
C436	1-164-159-11	CERAMIC	0.1uF		50V (G)	*CN801	1-568-836-11	SOCKET, CONNECTOR 17P		
C501	1-124-994-11	ELECT	100uF	20%	10V	*CN802	1-564-340-61	PIN, CONNECTOR 6P		
C502	1-124-994-11	ELECT	100uF	20%	10V	*CN803	1-564-341-11	PIN, CONNECTOR 7P		
C503	1-126-059-11	ELECT	10uF	20%	50V	< DIODE >				
C504	1-126-161-11	ELECT	2.2uF	20%	50V	D101	8-719-987-63	DIODE	1N4148M	
C506	1-161-494-00	CERAMIC	0.022uF		25V	D102	8-719-987-63	DIODE	1N4148M	
C508	1-126-163-11	ELECT	4.7uF	20%	50V	D201	8-719-987-63	DIODE	1N4148M	
C510	1-126-161-11	ELECT	2.2uF	20%	50V	D202	8-719-987-63	DIODE	1N4148M	
C511	1-126-161-11	ELECT	2.2uF	20%	50V	D401	8-719-933-54	DIODE	HZS9A2L	
C512	1-124-910-11	ELECT	47uF	20%	50V	D402	8-719-933-54	DIODE	HZS9A2L	
C513	1-126-161-11	ELECT	2.2uF	20%	50V					
C514	1-124-910-11	ELECT	47uF	20%	50V					
C515	1-124-478-11	ELECT	100uF	20%	25V					
C516	1-124-478-11	ELECT	100uF	20%	25V					

MAIN

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R120	1-249-421-11	CARBON	2.2K 5% 1/4W	R527	1-249-417-11	CARBON	1K 5% 1/4W
R121	1-249-417-11	CARBON	1K 5% 1/4W	R528	1-249-437-11	CARBON	47K 5% 1/4W
R122	1-249-432-11	CARBON	18K 5% 1/4W	R529	1-249-425-11	CARBON	4.7K 5% 1/4W
R123	1-249-432-11	CARBON	18K 5% 1/4W	R530	1-249-407-11	CARBON	150 5% 1/4W
R124	1-249-410-11	CARBON	270 5% 1/4W	R531	1-249-431-11	CARBON	15K 5% 1/4W
R126	1-249-417-11	CARBON	1K 5% 1/4W	R532	1-247-842-11	CARBON	3K 5% 1/4W
R127	1-249-429-11	CARBON	10K 5% 1/4W	R533	1-249-438-11	CARBON	56K 5% 1/4W
R201	1-249-421-11	CARBON	2.2K 5% 1/4W	R534	1-247-882-11	CARBON	130K 5% 1/4W
R202	1-249-423-11	CARBON	3.3K 5% 1/4W	R535	1-249-440-11	CARBON	82K 5% 1/4W
R203	1-247-887-00	CARBON	220K 5% 1/4W	R536	1-249-405-11	CARBON	100 5% 1/4W
R206	1-249-421-11	CARBON	2.2K 5% 1/4W	R537	1-249-433-11	CARBON	22K 5% 1/4W
R207	1-249-437-11	CARBON	47K 5% 1/4W	R538	1-249-425-11	CARBON	4.7K 5% 1/4W
R209	1-249-423-11	CARBON	3.3K 5% 1/4W	R539	1-249-414-11	CARBON	560 5% 1/4W
R210	1-249-428-11	CARBON	8.2K 5% 1/4W	R540	1-249-433-11	CARBON	22K 5% 1/4W
R212	1-247-864-11	CARBON	24K 5% 1/4W	R541	1-249-407-11	CARBON	150 5% 1/4W
R213	1-249-414-11	CARBON	560 5% 1/4W	R542	1-249-425-11	CARBON	4.7K 5% 1/4W
R215	1-249-421-11	CARBON	2.2K 5% 1/4W	R543	1-249-433-11	CARBON	22K 5% 1/4W
R217	1-249-431-11	CARBON	15K 5% 1/4W	R601	1-249-427-11	CARBON	6.8K 5% 1/4W
R218	1-249-421-11	CARBON	2.2K 5% 1/4W	R602	1-249-425-11	CARBON	4.7K 5% 1/4W
R219	1-249-429-11	CARBON	10K 5% 1/4W	R603	1-249-417-11	CARBON	1K 5% 1/4W
R220	1-249-421-11	CARBON	2.2K 5% 1/4W	R604	1-247-862-11	CARBON	20K 5% 1/4W
R221	1-249-417-11	CARBON	1K 5% 1/4W	R605	1-249-429-11	CARBON	10K 5% 1/4W
R222	1-249-432-11	CARBON	18K 5% 1/4W	R701	1-249-413-11	CARBON	470 5% 1/4W
R223	1-249-432-11	CARBON	18K 5% 1/4W	R702	1-249-413-11	CARBON	470 5% 1/4W
R224	1-249-410-11	CARBON	270 5% 1/4W	R703	1-249-422-11	CARBON	2.7K 5% 1/4W
R226	1-249-417-11	CARBON	1K 5% 1/4W	R704	1-247-858-11	CARBON	13K 5% 1/4W
R227	1-249-429-11	CARBON	10K 5% 1/4W	R705	1-249-429-11	CARBON	10K 5% 1/4W
R501	1-249-405-11	CARBON	100 5% 1/4W	R706	1-249-417-11	CARBON	1K 5% 1/4W
R502	1-249-405-11	CARBON	100 5% 1/4W	R707	1-247-850-11	CARBON	6.2K 5% 1/4W
R503	1-249-434-11	CARBON	27K 5% 1/4W	R708	1-249-422-11	CARBON	2.7K 5% 1/4W
R504	1-249-429-11	CARBON	10K 5% 1/4W	R709	1-249-429-11	CARBON	10K 5% 1/4W
R505	1-249-413-11	CARBON	470 5% 1/4W	R710	1-249-429-11	CARBON	10K 5% 1/4W
R506	1-247-864-11	CARBON	24K 5% 1/4W	R711	1-249-417-11	CARBON	1K 5% 1/4W
R507	1-247-887-00	CARBON	220K 5% 1/4W	R712	1-249-432-11	CARBON	18K 5% 1/4W
R510	1-249-429-11	CARBON	10K 5% 1/4W	R713	1-249-423-11	CARBON	3.3K 5% 1/4W
R511	1-249-429-11	CARBON	10K 5% 1/4W	R714	1-249-433-11	CARBON	22K 5% 1/4W
R512	1-247-887-00	CARBON	220K 5% 1/4W	R715	1-249-435-11	CARBON	33K 5% 1/4W
R513	1-249-429-11	CARBON	10K 5% 1/4W	R801	1-249-429-11	CARBON	10K 5% 1/4W
R514	1-249-441-11	CARBON	100K 5% 1/4W	R802	1-247-903-00	CARBON	1M 5% 1/4W
R515	1-249-428-11	CARBON	8.2K 5% 1/4W	R803	1-249-434-11	CARBON	27K 5% 1/4W
R516	1-249-423-11	CARBON	3.3K 5% 1/4W	R804	1-249-434-11	CARBON	27K 5% 1/4W
R517	1-249-441-11	CARBON	100K 5% 1/4W	R805	1-249-435-11	CARBON	33K 5% 1/4W
R518	1-249-417-11	CARBON	1K 5% 1/4W	R806	1-249-435-11	CARBON	33K 5% 1/4W
R519	1-249-441-11	CARBON	100K 5% 1/4W	R807	1-249-434-11	CARBON	27K 5% 1/4W
R520	1-249-429-11	CARBON	10K 5% 1/4W	R808	1-247-895-00	CARBON	470K 5% 1/4W
R521	1-249-441-11	CARBON	100K 5% 1/4W	R809	1-247-895-00	CARBON	470K 5% 1/4W
R522	1-249-433-11	CARBON	22K 5% 1/4W	R810	1-249-434-11	CARBON	27K 5% 1/4W
R524	1-249-417-11	CARBON	1K 5% 1/4W	R811	1-249-435-11	CARBON	33K 5% 1/4W
R526	1-249-429-11	CARBON	10K 5% 1/4W	R812	1-249-435-11	CARBON	33K 5% 1/4W

Ref. No.	Part No.	Description	Remark
R23	1-216-100-00	METAL GLAZE	130K 5% 1/10W
R24	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R31	1-216-033-00	METAL CHIP	220 5% 1/10W
R32	1-216-033-00	METAL CHIP	220 5% 1/10W
R71	1-216-082-00	METAL GLAZE	24K 5% 1/10W
R72	1-216-081-00	METAL CHIP	22K 5% 1/10W
R73	1-216-089-00	METAL CHIP	47K 5% 1/10W
R74	1-216-089-00	METAL CHIP	47K 5% 1/10W

< VARIABLE RESISTOR >

RV11 1-241-627-11 RES, ADJ, CARBON 1K
 RV21 1-241-627-11 RES, ADJ, CARBON 1K
 RV71 1-241-630-11 RES, ADJ, CARBON 10K
 RV72 1-241-630-11 RES, ADJ, CARBON 10K

* A-2006-401-A MD-HX BOARD, COMPLETE

< CAPACITOR >					
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-234-00	ELECT	22uF	20%	16V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C33	1-124-234-00	ELECT	22uF	20%	16V
C51	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C52	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C53	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C54	1-136-601-11	FILM	0.01uF	5%	630V
C56	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C71	1-164-346-11	CERAMIC CHIP	1uF		16V
C80	1-124-234-00	ELECT	22uF	20%	16V
C81	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C82	1-136-157-00	FILM	0.022uF	5%	50V
C83	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C84	1-136-478-11	FILM	470PF	5%	630V
C85	1-136-433-11	FILM	100PF	5%	630V
C86	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C87	1-136-273-91	FILM	75PF	5%	630V
C88	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C89	1-124-234-00	ELECT	22uF	20%	16V
C90	1-107-045-00	MICA	3.9PF		500V
C91	1-164-232-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description	Remark
C92	1-136-157-00	FILM	0.022uF 5% 50V
C93	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C94	1-136-478-11	FILM	470PF 5% 630V
C95	1-136-433-11	FILM	100PF 5% 630V
C96	1-163-143-00	CERAMIC CHIP	0.0012uF 5% 50V
C97	1-136-273-91	FILM	75PF 5% 630V
C98	1-163-003-11	CERAMIC CHIP	330PF 10% 50V
C99	1-164-005-11	CERAMIC CHIP	0.47uF 25V

< CONNECTOR >

*CNP31 1-580-782-11 CONNECTOR, BOARD TO BOARD
 *CNP32 1-580-781-11 PIN, CONNECTOR (PC BOARD) 7P
 *CNP33 1-580-782-11 CONNECTOR, BOARD TO BOARD
 *CNP71 1-564-719-11 PIN, CONNECTOR (SMALL TYPE) 3P
 *CNP72 1-580-411-11 SOCKET, CONNECTOR 4P

< DIODE >

D31 8-719-016-74 DIODE 1SS352

< IC >

IC31 8-759-106-02 IC uPC4570G2
 IC81 8-759-106-56 IC uPC1297CA

< COIL >

L81 1-410-780-11 INDUCTOR 27mH
 L91 1-410-780-11 INDUCTOR 27mH

< TRANSISTOR >

Q51 8-729-808-01 TRANSISTOR 2SD1622-S
 Q52 8-729-808-01 TRANSISTOR 2SD1622-S
 Q53 8-729-808-01 TRANSISTOR 2SD1622-S
 Q71 8-729-216-22 TRANSISTOR 2SA1162

< RESISTOR >

R11	1-216-099-00	METAL CHIP	120K 5% 1/10W
R12	1-216-025-00	METAL CHIP	100 5% 1/10W
R13	1-216-100-00	METAL GLAZE	130K 5% 1/10W
R14	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R21	1-216-099-00	METAL CHIP	120K 5% 1/10W
R22	1-216-025-00	METAL CHIP	100 5% 1/10W
R22	1-216-025-00	METAL CHIP	100 5% 1/10W
R23	1-216-100-00	METAL GLAZE	130K 5% 1/10W
R24	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R31	1-216-033-00	METAL CHIP	220 5% 1/10W
R32	1-216-033-00	METAL CHIP	220 5% 1/10W
R51	1-216-097-00	METAL CHIP	100K 5% 1/10W
R52	1-216-097-00	METAL CHIP	100K 5% 1/10W
R53	1-216-073-00	METAL CHIP	10K 5% 1/10W
R54	1-216-309-00	METAL CHIP	5.6 5% 1/10W

MAIN

MD-A

Ref. No.	Part No.	Description	Remark
R813	1-249-421-11	CARBON	2.2K 5% 1/4W
R814	1-249-421-11	CARBON	2.2K 5% 1/4W
R815	1-249-421-11	CARBON	2.2K 5% 1/4W
R816	1-249-421-11	CARBON	2.2K 5% 1/4W
R817	1-249-393-11	CARBON	10 5% 1/4W
R818	1-249-435-11	CARBON	33K 5% 1/4W
R821	1-247-903-00	CARBON	1M 5% 1/4W
R822	1-249-435-11	CARBON	33K 5% 1/4W
R823	1-249-425-11	CARBON	4.7K 5% 1/4W
R824	1-249-435-11	CARBON	33K 5% 1/4W
R825	1-249-429-11	CARBON	10K 5% 1/4W
R826	1-249-420-11	CARBON	1.8K 5% 1/4W
R827	1-249-435-11	CARBON	33K 5% 1/4W
R828	1-249-433-11	CARBON	22K 5% 1/4W
R829	1-249-433-11	CARBON	22K 5% 1/4W
R830	1-249-433-11	CARBON	22K 5% 1/4W
R831	1-249-421-11	CARBON	2.2K 5% 1/4W
R834	1-249-425-11	CARBON	4.7K 5% 1/4W
R835	1-249-435-11	CARBON	33K 5% 1/4W
R836	1-249-435-11	CARBON	33K 5% 1/4W
R837	1-249-431-11	CARBON	15K 5% 1/4W
R838	1-249-422-11	CARBON	2.7K 5% 1/4W
R839	1-249-405-11	CARBON	100 5% 1/4W
R842	1-249-425-11	CARBON	4.7K 5% 1/4W
R843	1-247-862-11	CARBON	20K 5% 1/4W
R844	1-247-862-11	CARBON	20K 5% 1/4W
R845	1-249-425-11	CARBON	4.7K 5% 1/4W
R846	1-249-415-11	CARBON	680 5% 1/4W
R847	1-249-429-11	CARBON	10K 5% 1/4W
R848	1-249-415-11	CARBON	680 5% 1/4W
R849	1-249-429-11	CARBON	10K 5% 1/4W
R851	1-249-437-11	CARBON	47K 5% 1/4W
R852	1-247-866-11	CARBON	30K 5% 1/4W
R853	1-247-866-11	CARBON	30K 5% 1/4W
R854	1-249-437-11	CARBON	47K 5% 1/4W
R855	1-247-872-11	CARBON	51K 5% 1/4W
R856	1-247-872-11	CARBON	51K 5% 1/4W
R857	1-247-872-11	CARBON	51K 5% 1/4W
R858	1-247-872-11	CARBON	51K 5% 1/4W
R859	1-249-405-11	CARBON	100 5% 1/4W
R860	1-249-405-11	CARBON	100 5% 1/4W
R870	1-249-451-11	CARBON	2.2 5% 1/4W
R871	1-249-451-11	CARBON	2.2 5% 1/4W

< VARIABLE RESISTOR >

RV101	1-241-630-11	RES, ADJ, CARBON	10K
RV201	1-241-630-11	RES, ADJ, CARBON	10K

Ref. No.	Part No.	Description	Remark
< VIBRATOR >			
X801	1-577-358-21	VIBRATOR, CERAMIC 4MHz	
X802	1-577-358-21	VIBRATOR, CERAMIC 4MHz	

*	A-2006-399-A	MD-A BOARD, COMPLETE	

< CAPACITOR >			
C11	1-163-131-00	CERAMIC CHIP	390PF 5% 50V
C12	1-136-157-00	FILM	0.022uF 5% 50V
C13	1-124-234-00	ELECT	22uF 20% 16V
C18	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C21	1-163-131-00	CERAMIC CHIP	390PF 5% 50V
C22	1-136-157-00	FILM	0.022uF 5% 50V
C23	1-124-234-00	ELECT	22uF 20% 16V
C28	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C31	1-124-234-00	ELECT	22uF 20% 16V
C32	1-124-234-00	ELECT	22uF 20% 16V
C72	1-124-499-11	ELECT, NONPOLAR R	1uF 20% 50V
< JACK >			
*CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD	
*CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P	
< CONNECTOR >			
*CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD)	4P
*CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE)	3P
< IC >			
IC31	8-759-106-02	IC	uPC4570G2
< JUMPER RESISTOR >			
JW1	1-216-295-00	METAL CHIP	0 5% 1/10W
JW51	1-216-296-00	METAL CHIP	0 5% 1/8W
JW52	1-216-296-00	METAL CHIP	0 5% 1/8W
JW53	1-216-296-00	METAL CHIP	0 5% 1/8W
JW54	1-216-296-00	METAL CHIP	0 5% 1/8W
< TRANSISTOR >			
Q71	8-729-602-36	TRANSISTOR	2SA1602
< RESISTOR >			
R11	1-216-099-00	METAL CHIP	120K 5% 1/10W
R12	1-216-025-00	METAL CHIP	100 5% 1/10W
R13	1-216-100-00	METAL GLAZE	130K 5% 1/10W
R14	1-216-067-00	METAL CHIP	5.6K 5% 1/10W
R21	1-216-099-00	METAL CHIP	120K 5% 1/10W

MD-HX

PANEL

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark	
R55	1-216-309-00	METAL CHIP	5.6	5%	1/10W	C902	1-161-379-00	CERAMIC	0.01uF	20%	25V	
R57	1-216-298-00	METAL CHIP	2.2	5%	1/10W			< CONNECTOR >				
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W	*CN901	1-568-836-11	SOCKET, CONNECTOR 17P				
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W			< DIODE >				
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W	D901	8-719-301-38	LED	SEL2210S-C (C FADE)			
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W	D902	8-719-301-38	LED	SEL2210S-C (FADE)			
R81	1-216-073-00	METAL CHIP	10K	5%	1/10W	D903	8-719-301-38	LED	SEL2210S-C (EDIT)			
R82	1-216-085-00	METAL CHIP	33K	5%	1/10W	D904	8-719-301-38	LED	SEL2210S-C (REC LEVEL)			
R83	1-216-001-00	METAL CHIP	10	5%	1/10W	D906	8-719-987-63	DIODE	1N4148M			
R84	1-216-101-00	METAL CHIP	150K	5%	1/10W			< FILTER >				
R85	1-216-075-00	METAL CHIP	12K	5%	1/10W	FL901	1-519-741-11	INDICATOR TUBE, FLUORESCENT				
R91	1-216-073-00	METAL CHIP	10K	5%	1/10W			< IC >				
R92	1-216-085-00	METAL CHIP	33K	5%	1/10W	IC901	8-759-321-92	IC	HD614022S			
R93	1-216-001-00	METAL CHIP	10	5%	1/10W			< TRANSISTOR >				
R94	1-216-101-00	METAL CHIP	150K	5%	1/10W	Q901	8-729-900-61	TRANSISTOR	DTA114ES			
R95	1-216-075-00	METAL CHIP	12K	5%	1/10W			< RESISTOR >				
		< VARIABLE RESISTOR >				R401	1-249-405-11	CARBON	100	5%	1/4W	
		< RELAY >				R402	1-249-405-11	CARBON	100	5%	1/4W	
RY31	1-515-726-11	RELAY				R403	1-249-405-11	CARBON	100	5%	1/4W	
		< TRANSFORMER >				R901	1-249-407-11	CARBON	150	5%	1/4W	
T51	1-406-417-11	COIL, BIAS OSCILLATION				R902	1-249-409-11	CARBON	220	5%	1/4W	
T81	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR				R904	1-249-413-11	CARBON	470	5%	1/4W	
T91	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR				R905	1-249-415-11	CARBON	680	5%	1/4W	
		< TEST PIN >				R906	1-249-417-11	CARBON	1K	5%	1/4W	
*TP81	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P				R907	1-249-420-11	CARBON	1.8K	5%	1/4W	
*	A-2006-797-A	PANEL BOARD, COMPLETE				R909	1-249-407-11	CARBON	150	5%	1/4W	
*	3-362-478-21	HOLDER (T), LED				R910	1-249-409-11	CARBON	220	5%	1/4W	
*	4-921-941-01	CUSHION (FL)				R911	1-249-411-11	CARBON	330	5%	1/4W	
*	4-933-646-01	HOLDER (TC), FL TUBE				R912	1-249-418-11	CARBON	1.2K	5%	1/4W	
		< CAPACITOR >				R927	1-249-411-11	CARBON	330	5%	1/4W	
		< SWITCH >				R928	1-249-411-11	CARBON	330	5%	1/4W	
C406	1-162-292-31	CERAMIC	680PF	10%	50V	R929	1-249-411-11	CARBON	330	5%	1/4W	
C407	1-162-292-31	CERAMIC	680PF	10%	50V	R930	1-249-411-11	CARBON	330	5%	1/4W	
C408	1-162-292-31	CERAMIC	680PF	10%	50V	R931	1-247-903-00	CARBON	1M	5%	1/4W	
C901	1-161-379-00	CERAMIC	0.01uF	20%	25V	R932	1-249-411-11	CARBON	330	5%	1/4W	
		< SWITCH >				S901	1-554-303-21	SWITCH, TACTILE (HIGH SPEED)				
		< SWITCH >				S902	1-554-303-21	SWITCH, TACTILE (NORMAL SPEED)				
		< SWITCH >				S905	1-554-303-21	SWITCH, TACTILE (RESET)				
		< SWITCH >				S906	1-554-303-21	SWITCH, TACTILE (MEMORY)				
		< SWITCH >				S907	1-554-303-21	SWITCH, TACTILE (A/B)				

PANEL	REC VOL	SW-A	SW-B
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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
S909	1-554-303-21	SWITCH, TACTILE (C FADE)				< IC >	
S910	1-554-303-21	SWITCH, TACTILE (FADE)					
S911	1-554-303-21	SWITCH, TACTILE (EDIT)					
S912	1-554-303-21	SWITCH, TACTILE (TIME)					
		< VIBRATOR >				< RESISTOR >	
X901	1-567-775-11	VIBRATOR, CERAMIC 4.19MHz					

*	1-643-528-11	REC VOL BOARD				< SWITCH >	

		< CAPACITOR >					
C814	1-164-159-11	CERAMIC	0.1uF	50V	S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)
					S82	1-571-281-21	SWITCH, LEAF (70EQ)
		< CONNECTOR >			S86	1-571-281-21	SWITCH, LEAF (HALF)

*CN508	1-568-832-11	SOCKET, CONNECTOR 13P				3-343-419-01	HOLDER (S SENSER A)
		< DIODE >				< CONNECTOR >	
D805	8-719-987-63	DIODE		1N4148M	*CNP81	1-568-852-11	SOCKET, CONNECTOR 9P
D806	8-719-987-63	DIODE		1N4148M			
		< IC >				< IC >	
IC806	8-759-820-62	IC		LB1639	IC81	8-719-710-03	DIODE
							NJL5165K-B
		< TRANSISTOR >					
Q807	8-729-900-65	TRANSISTOR		DTA144ES	R81	1-249-414-11	CARBON
Q808	8-729-900-89	TRANSISTOR		DTC144ES	R82	1-247-818-11	CARBON
					R83	1-247-834-11	CARBON
		< RESISTOR >			R84	1-249-417-11	CARBON
R125	1-249-435-11	CARBON	33K	5%	R85	1-249-408-11	CARBON
R225	1-249-435-11	CARBON	33K	5%			560
R832	1-249-412-11	CARBON	390	5%			300
R833	1-249-411-11	CARBON	330	5%			1.3K
		< VARIABLE RESISTOR >					1K
RV301	1-241-891-11	RES, VAR, CARBON 20KX3	(REC REVEL)				1/4W

*	1-634-841-14	SW-A BOARD				< SWITCH >	

		3-343-419-01	HOLDER (S SENSER A)				
		< CONNECTOR >					
*CNP81	1-568-852-11	SOCKET, CONNECTOR 9P					
						MISCELLANEOUS	

* 5	1-574-726-11	WIRE, FLAT TYPE (13 CORE)					
6	1-690-907-11	WIRE (FLAT TYPE) (17 CORE)					
69	1-690-906-11	WIRE (FLAT TYPE) (9 CORE)					
* 120	1-634-841-14	SW-A BOARD (DECK A)					
* 120	1-634-841-14	SW-B BOARD (DECK B)					
HP901	A-2003-837-A	BASE ASSY, HEAD (PB)	(DECK A)				

Ref. No.	Part No.	Description	Remark
	HRPE901A-2003-838-A	BASE ASSY, HEAD (PB/REC/ERASE) (DECK B)	
M901A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M901B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M902A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M902B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	

ACCESSORIES & PACKING MATERIALS

- * 3-350-154-01 CUSHION
- * 3-704-350-01 SHEET (STANDARD), PROTECTION

HARDWARE LIST

- #1 7-685-646-79 SCREW +BVTP 3X8 TYPE2 N-S
- #2 7-621-773-93 SCREW (PANEL 2.6 TP2)
- #3 7-685-645-79 SCREW +BVTP 3X6 TYPE2 N-S
- #4 7-621-775-00 SCREW +B 2.6X3
- #5 7-627-556-08 SCREW +P 2.6X2.8